HAWAII MEDICAL JOURNAL

and

INTER-ISLAND NURSES' BULLETIN

SEPTEMBER-OCTOBER, 1947 No. 1

PROMIN AND OTHER SULFONES IN LEPROSY
NORMAN R. SLOAN, M.D.

•

RHINOSCLEROMA
H. E. CRAWFORD, M.D., and M. GERUNDO, M.D.

•

POSTGRADUATE LECTURES: III AND IV
CYRUS C. STURGIS, M.D.

•

REMINISCENCES OF DECEMBER SEVENTH: I
ARTHUR GORDON HODGINS, M.D.

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VOLUME 7
NUMBER 1

SEPTEMBER-OCTOBER, 1947

$2.00 per Year
35c per Copy

Published Bi-Monthly by

THE HAWAII TERRITORIAL MEDICAL ASSOCIATION
(Incorporated in 1856 under the Monarchy)

Official Publication of:

Hawaii Territorial Medical Association
Nurses' Association, Territory of Hawaii
Hospital Association of Hawaii

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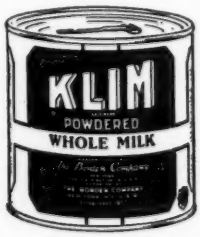

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Promin and Other Sulfones in Leprosy

Preliminary Report

NORMAN R. SLOAN, M.D.*
KALAUPAPA, MOLOKAI

THE year 1943 marked a turning point in the treatment of leprosy. Until then nothing was known which exerted a definite therapeutic effect. The much vaunted chaulmoogra oil, with its numerous derivatives, had long been discarded as useless in Hawaii, as elsewhere. Other ideas had had their brief day and passed on; one of the most recent (1941) and most publicized was diphtheria toxoid, with an associated theory of increased susceptibility caused by use of taro and related roots. It is true that with better care of complications, including secondary infections, patients at Kalaupapa Settlement were living longer. Their improved condition was partly due to two important factors: tracheotomies, when needed, were being performed sooner and receiving better after-care[1]; and many ulcerations were healing better, in part because of local use of sulfonamides. Meanwhile, the total number of leprous patients in the territory had been steadily decreasing; this we believe is mainly the result of segregation of cases believed infectious, coupled with earlier diagnosis.

Promin

Then came the report of Faget and 5 colleagues[2] at the National Leprosarium, Carville, Louisiana. They stated that in 22 patients who had received promin, a sulfone drug, for a year or longer, 15 were improved, 6 stationary, and 1 worse. Some of their conservative yet justified conclusions were:

"Promin is the sulfonamide [*sic*] drug which thus far seems to possess to the greatest extent some chemotherapeutic properties against leprosy."

"It is not claimed that promin is a specific for leprosy, but in the writers' estimation it is an advance in the right direction in the therapy of this disease."

"Promin can be considered to have opened a new avenue in the chemotherapy of the mycobacterial diseases. It is hoped that further synthesis of sulfa compounds may produce a substance which will succeed in saving countless lives in this still dark field of medicine."

Later experience at Carville[3] has confirmed and added to this early report. But promin has two disadvantages. It is definitely toxic, producing at times hemolytic anemia; severe itching, sometimes with allergic dermatitis; nausea and vomiting; headache; dizziness; and exacerbation of leprous lesions, especially of the eyes. The second disadvantage is that the drug must be given intravenously, because toxicity is much greater when the oral route is used.

Other Sulfones

Naturally, a search soon began for something better; in particular, for drugs which would be safe and effective when taken by mouth. Several have been tried; these are all sulfones, chemically related to promin. Two have been given fairly extensive trial; these are diasone[4] and promizole[5]. Diasone has been reported to cause hematuria, which can usually be avoided by beginning with a low dose and increasing gradually; it can also produce the same toxic symptoms as promin. In some cases it causes nausea and vomiting soon after administration; the manufacturers have not seen fit to provide the tablets with enteric coatings.

Promizole, from reports thus far available, appears to be about as effective as promin or diasone, and may be less toxic; but it is not available to us, and the manufacturers report that production is difficult and expensive, so that it may not be on the market for a long time.

A fourth sulfone, pyricidin, has had a more

* Medical Director, Kalaupapa Settlement.

With the professional and technical assistance of L. A. Box, M.D., H. R. G. von Scorebrand, M.D., G. K. Fredericks, and F. W. Southard.

Read before the Fifty-Seventh Annual Meeting of the Hawaii Territorial Medical Association, May 2, 1947.

Approved for publication by the Board of Hospitals and Settlement, Territory of Hawaii.

[1] Sloan, N. R.: Tracheotomy in Leprosy, Internat. J. Lep. 12:11, 1944.

[2] Faget, G. H., et al.: The Promin Treatment of Leprosy: A Progress Report, Pub. Health Rep. 58:1729, (Nov. 26) 1943.

[3] Faget, G. H., and Pogge, R. C.: The Therapeutic Effect of Promin in Leprosy, Pub. Health Rep. 60:1165, (Oct. 5) 1945. Fite, G. L., and Gemar, F.: Regressive Changes in Leprosy under Promin Therapy, South. M. J. 39:277, (April) 1946. Faget, G. H., et al.: Present Status of Promin Therapy in Leprosy, Internat. J. Lep. 14:31, 1946.

[4] Muir, E.: Diasone in the Treatment of Leprosy, Internat. J. Lep. 12:1, 1944. Faget, G. H., and Pogge, R. C.: Treatment of Leprosy with Diasone: A Preliminary Report, New Orleans M. & S. J. 98: 145, (Oct.) 1945. Faget, G. H., Pogge, R. C., and Johansen, F. A.: Present Status of Diasone in the Treatment of Leprosy, Pub. Health Rep. 61:960, (June 28) 1946. Fernandez, J. M. M., and Carboni, E. A.: The Action of Diasone in the Treatment of Leprosy, Internat. J. Lep. 14:19, 1946.

[5] Faget, G. H., Pogge, R. C., and Johansen, F. A.: Promizole Treatment of Leprosy, Pub. Health Rep. 61:957, (June 28) 1946.

limited trial. I have seen no published reports of its use.

Trial at Kalaupapa Settlement

When the first reports of success with promin came from Carville (in part through the patients' publication, *The Star*), our patients were naturally eager to try it. But the warnings of toxicity made us hesitate, for we felt that preliminary work on such a drug should be done by an institution with adequate clinical and laboratory staff and equipment—a situation which has never existed at Kalaupapa. Then came diasone, which would at least eliminate intravenous injections; and by February, 1946, the Board of Hospitals and Settlement authorized a test of this drug. But we could not get it! Requests for experimental supply were refused, and it was not yet on the market.

A similar situation applied to promin; but it was at last placed on sale. We at once began work on 6 patients, chosen because of failing vision, in hopes that blindness would be prevented even if vision did not improve. This was in May, 1946, and more cases were soon added until 123 patients had begun treatment, including 3 who had started at Kalihi Hospital, the receiving station for leprosy on the Island of Oahu.

Personally, I have never been satisfied with the idea of intravenous therapy in leprosy, and probably we would not have started promin had diasone been available; but to achieve an evaluation as nearly scientific as our limited facilities would permit, we have asked all patients starting on any sulfone drug to agree to continue its use for a year, unless hindered by adequate reasons. Thus we hope to obtain comparable results with several drugs.

From Dr. George L. Fite, of the United States Public Health Service, who was formerly stationed at Kalihi Hospital and is now at Carville, we learned of another drug which had given good results in rat leprosy and in a few human beings. A quantity of pyricidin was obtained† sufficient for 8 patients, aged 10 to 16, whose youth or poor veins made promin inadvisable.

Meanwhile, also at the suggestion of Dr. Fite, a group of 5 patients tried quinacrine hydrochloride (Atabrin) in doses ranging from 0.05 gram to 0.2 grams daily except Sunday. No appreciable result was seen after periods ranging from two and one-half to six months, and all these patients, plus 8 who had started quinacrine at Kalihi Hospital, have since been transferred to promin or diasone.

† Through the courtesy of Dr. W. Harry Feinstone of the Pyridium Corporation.

Results

Promin

Leprosy is a disease of extremely chronic development, and one would expect therapeutic results to be slow in appearing. When, therefore, a drug is found in which an appreciable part of those receiving it show definite improvement in six months or less, it is well worth notice. In all, 123 of our patients have begun treatment with promin. Of these, 17 have stopped for the following reasons:

Died	4
Transferred to diasone	11
Temporarily discontinued	2

None of those who died had been receiving promin for more than 6 weeks. All were started as a last resort, in the early days of our promin experience. One died of advanced leprosy and 3 of tuberculous peritonitis (which among our patients has 100 per cent mortality).

The transfers were made because of poor veins, except for 1 who showed promin sensitivity, evidenced by repeated attacks of iridocyclitis and conjunctivitis, but who has been doing well so far on diasone.

Of the remaining 106 patients, 72 have been receiving promin for 6 months or more. Most of these have shown improvement, subjective, objective, or both. While a detailed clinical check on the entire group has not been possible in time for this meeting, the general trend is unmistakable. On a conservative count, it may be said that 55 are definitely improved, 8 stationary or doubtful, and 9 worse. This last group is composed principally of patients suffering from intercurrent lepra reactions.

Improvement takes many forms. Reactions are less frequent and less severe. Appetites improve and patients gain weight. Nodules flatten and small ones disappear; long standing ulcers heal; eye, nose, and throat conditions improve. Striking changes are sometimes seen in mucosal lesions; of 16 in this group who had been wearing tracheal tubes, because of laryngeal infiltration, 3 have been able to remove them, and several more will probably do so soon.

Almost as important as physical improvement is the psychologic reaction of leprous patients to a new treatment. Many had been previously disappointed by such "remedies" as chaulmoogra oil and diphtheria toxoid, and were justly skeptical of something new. When they started use of promin, the patients were told that we promised nothing, but would do our best and let them judge the results. Accordingly, a questionnaire

compiled by my associate, Dr. Scorebrand, is of particular interest. Fifty-six replies were received, from patients who had been receiving promin for 6 months or more. Some of the responses follow:

Of the 56, 50 report feeling better; 2 are not sure, and only 2 feel worse.

Thirty-seven gained weight—some too much!

Forty-one show improved appetite. (Anorexia is a common symptom in leprosy.)

Of 41 in whom lepromatous nodules were present, shrinkage or disappearance occurred in 25.

Of 43 who had cutaneous ulcers, 40 reported that healing had been better than before. In some cases ulcerations of several years' duration healed completely.

Forty-seven stated that the nose was improved, and 45 were breathing better.

Twenty-three reported improved vision, and in none is the vision worse, although temporary flare-ups of leprous iridocyclitis may occur.

Twenty stated that lepra reactions were fewer; 5 that they were more frequent.

But the prize question was, "Are you sorry you started this treatment?" Fifty-five said "No"; one was uncertain.

In this brief preliminary report I have not distinguished the two forms of leprosy, lepromatous and "neural" (tuberculoid).[6] Both show improvement, but perhaps unequally. The relatively small number of tuberculoid cases under treatment, and their known tendency to spontaneous improvement, make comparison of results in the two forms premature; but the matter will be discussed in later and more detailed publications.

Diasone

One hundred and nine patients are now receiving diasone, but the longest period is only nine weeks, so it is too soon to look for results.

Pyricidin

Eight young patients were started on this drug (in addition to one acutely ill patient who received it for only a few weeks before her death). One developed a severe hematuria after seven weeks, and the drug was discontinued. Careful urologic study has failed to show any organic cause for the bleeding, and we feel compelled to attribute it to the drug. Yet in spite of the small amount received (68 grams in all) he now shows definite regression of facial lepromas. This seems to indicate hypersensitivity to both therapeutic and toxic effects of pyricidin.

Another member of this group, while showing slight or doubtful improvement in his external lesions, developed increasingly alarming laryngeal involvement. In an effort to avoid tracheotomy (he is our youngest patient, only 11 years old) it was decided to discontinue pyricidin and to start cautious use of diasone.

Of the remaining six, two show slight or doubtful improvement. None is worse. We have decided to continue trial of pyricidin for a few more months.

Conclusion

For the first time in the long, long history of leprosy, drugs which possess a real degree of therapeutic effectiveness are available. This statement is based partly on studies elsewhere, especially by workers of the United States Public Health Service at Carville, Louisiana; and partly on results already in evidence after a trial of 11 months at Kalaupapa Settlement.

This report may be considered premature; but we feel that the striking progress already evident, especially as regards healing of long standing cutaneous ulcers, arrest of failing vision, and improvement of laryngeal conditions, fully justifies a preliminary statement to the physicians of Hawaii at this time. As yet, we do not speak of a "cure"; we hardly dare to hope for it; yet the agreement of our results with those reported elsewhere leads us to feel that there is room for real optimism regarding eventual solution of the ages-old problem of leprosy.

Since this is so, it is now more than ever important that the medical profession of Hawaii continue the good work, already well begun, of diagnosing cases of leprosy in the early stages, when there may be reasonable hope of arrest within a few years, with prevention of blindness and crippling deformity.

Summary

Three sulfone drugs—promin, diasone, and pyricidin—are being used at Kalaupapa. Promin has been in use for 11 months, and is showing encouraging results. Improvement with pyricidin is less definite. Diasone has not as yet been in use here long enough to judge its value.

Highly encouraging reports on the use of promin and diasone have been made by workers in other parts of the world. It seems safe to say that for the first time drugs of real value for the amelioration of leprosy are at hand. Perhaps in time—but not yet—we may even speak of cure.

[6] Tilden, I. L., and Arnold, H. L., Jr.: The Two Kinds of Leprosy: Lepromatous and Tuberculoid, Proc. Staff Meet. Clin., Honolulu 10:91, (Sept.) 1944. Arnold, H. L., Jr., and Tilden, I. L.: The Classification and Nomenclature of Leprosy, with Suggestions for the Simplification of Both, Ann. Int. Med. 23:65, (July) 1945. Arnold, H. L., Jr.: Differentiation of Lepromatous from "Neural" Leprosy, Arch. Dermat. & Syph. 52:354, (Nov.-Dec.) 1945.

Discussion

DR. E. A. FENNEL: You have just heard a report that marks an era in the medical history of Hawaii nei. It is a very important one.

On the day I first set foot on these hospitable shores in 1919, I saw my first leper, as they were called in those days (he was the civilian employee who handled the officers' baggage at the military pier—he was a heavy leonine case), and I have been keenly interested in leprosy ever since.

Quite recently I made a three-day-trip to our Settlement at Kalaupapa. Now I believe in miracles; almost in a beneficent God.

When I first knew Kalaupapa many years ago, it was a horrid hell hole of hopelessness. There was a sweetish, sickening stench over the whole place and the buildings were even more decrepit than the patients. There was practically no medical attention besides some cathartics and many bandages and dressings, put on by amateurs—the word means "those who love"—mostly kokuas and practical nurses.

A little chaulmoogra oil was still being given but the great majority of the disillusioned and discouraged patients, having seen the results, or rather the lack of them, refused further treatments, in spite of vigorous propaganda by some of our local chemists, who were producing numerous esters of the oil. In spite of all this misery, there were many smiles on the faces of the patients of Kalaupapa. That was the end of one era.

Then the problem of leprosy was turned over to the Board of Hospitals and Settlement, and great strides were made in the physical rehabilitation of the Settlement. A modern hospital was built and trained nurses employed, but there was little change in therapeusis. There were more and better dressings for the numberless ulcers and there were more smiles in Kalaupapa. But, with here and there an exception, the rule was that the prognosis was poor indeed, though death was often long delayed. Even in and over all these new buildings there hung that pall of the sickeningly sweet stench of many, many ulcers.

So ended that era; and another was ushered in by the advent of sulfanilamide and later its chemical relatives. A great deal of topical application to ulcers was made and, while there was no effect on M. leprae, the mixed infections dwindled and were held in reasonable control. The air cleared. I shall never forget the first time, in this era, that I walked into the Hospital; I smelled good, cooking food—without an overlay of that deadly, sickening odor that used to be everywhere. There were many smiles and cheerful Alohas on all sides.

Then came promin, and later diasone, which ushered in the present era.

Dr. Sloan is conservative and not carried away by enthusiasm. He has lived with these patients day in and day out and the retrogressions, for him, were not startling.

But for me it all was more than startling—it was as inspirational as a religious episode would be to some people.

Less than a year ago, on my last visit, for example, I talked long and earnestly with my friend, Harada, who came to national attention through the writings of Ernie Pyle. He was heavily nodular at the time, and it must have taken hours to apply all the dressings to the ulcers of his hands and fingers, that he needed so much for his typewriter.

This time his face was relatively smooth and there was not a single dressing on his hands—only new, pale epithelium. To paraphrase Paré, "Sloan injected him; God healed him." It would be asking too much of God to restore to Harada the fingers that had to be amputated or to straighten out the contracted ones. But it is not asking too much of you, my fellow physicians, to discover these cases at a stage where these new drugs will restore to the community a whole man—not a fraction of a man.

Another example—a Caucasian woman, a friend of my wife—when last I saw her she was sitting in a corner, sick, trembling, protecting her eyes, that were going blind, from the light. She was heavily nodular and was having difficulty with her tracheal tube. I had difficulty understanding her speech. I left her with a very sad heart.

This time, a door opened and out onto the lanai jauntily walked a woman, obviously full of energy and self confidence; she looked at me and even before I spoke she recognized me by sight! She wore a dress open at the neck, and there was a small healed scar, where her tracheal tube used to be! Her voice was normal, and her face showed only whitened skin where lepromata used to be. We chatted awhile and then she went happily about her business. I was nearly moved to tears—tears of happiness.

This is, then, the era of hope and confidence; this is the era, not of smiles, but of loud, hearty laughter—you should have heard it at a recent ball game between the patients and the kokuas. It was a good game, but my chief interest was the audience, their laughter and most obvious happiness.

This is indeed, The Era; the most important one, for these people, since biblical days. I am grateful that I have lived in it and seen it at close range.

Rhinoscleroma

Report of First Two Cases Recognized in Hawaii

H. E. CRAWFORD, M.D. and M. GERUNDO, M.D., Ph.D.
HILO, HAWAII

RHINOSCLEROMA, or scleroma, is a chronic granulomatous infection of the upper respiratory tract. It was first described by Hebra in 1870 and later studied by Kaposi, Mikulicz, and Unna. In 1882 von Frisch discovered a bacillus now known as Klebsiella rhinoscleromatis which is generally accepted as the etiological agent.

Epidemiologic History

The disease appeared to be localized in eastern Europe, Poland, Russia, and Galicia, particularly along the Pripjet River,[1] but soon after World War I it was reported from other parts of the continent. This spread was ascribed to the return of war prisoners from the affected regions.[2] Later cases were found in North Africa, Southern Asia, Sumatra, and Central America. Cases have since been reported from Cuba, Mexico, and South America. It was believed that all cases in the United States were in immigrants from Europe or their offspring, until 1921, when Watkins[3] reported the disease in an American-born negro. Endemic areas have since been discovered in South Carolina[4] and southern California.[5] Reviews by Figi and Thompson,[6] Dill,[7] and a symposium held by the International Congress of Otorhinolaryngology[8] at Madrid in 1932 cover the subject in detail. A more recent article, which reviews foreign and American cases, is that of Cunning and Guerry.[9] According to these two authors, in the United States there have been only sixteen cases in native born up to 1942. No cases have been reported from Hawaii, the Philippines, the spread of the disease after World War I and one might expect the same to occur after World War II.

Clinical Aspects

The disease may involve the mucous membrane of the nose, nasopharynx, eustachian tube, middle ear, pharynx, soft palate, larynx, and trachea. It may extend to several regions or be localized in one. It may be primary in the larynx[10] or trachea, but this is not usual. Essentially the China, or Japan. Putschowsky[8] has pointed out lesions are either discrete, cyanotic, firm nodules of varied dimensions or diffuse submucous infiltrations with a hard consistency and lardaceous appearance in the early stage.[8] The process may begin near the nasal vestibule and from there propagate under the skin of the columella and upper lip and into the nasal cavities. The disease is of long duration and leads to sclerosis of the nodules and stenosis but does not become generalized.[8] It is divided into four stages: (1) Indurative or catarrhal stage during which there may be profuse discharge with a foul odor, resembling ozena. (2) Stage of infiltration and non-specific granulation with predominance of plasma cells and new capillary formation. (3) Stage of granuloma and of specific cells at which time the nodules or infiltrations are of cartilage-like hardness and the microscopic picture shows foamy and clear cells (Mikulicz' cells) and hyaline globular masses (Russel's bodies). (4) Stage of sclerosis when the specific cells disappear and give way to dense avascular collagenous tissue. The stage of sclerosis may be predominant in one region with newer lesions present in others. The course of the disease from the initial stage covers many years, from five to thirty-five, according to various authors. The specific organisms may be seen in the tissues during any of the active stages of the disease.

The lesions may be easily confused with tuberculosis, leprosy, syphilis, and carcinoma.[11] We be-

Read before the Fifty-Seventh Annual Meeting of the Hawaii Territorial Medical Association, May 2, 1947.

[1] Haub: Das Sklerom und seine wachsende Bedeutung durch die Zuwanderung aus dem Osten, Munch med. Wchschr. 91:197 (April 21) 1944.

[2] Malan, H.: In Ceconi, Medicina Interna, Minerva Medica, Turin, Vol. II; 1937, page 313.

[3] Watkins, S.S.: Primary Scleroma of the Larynx in a Negro Born in Maryland, Surg., Gynec. & Obst. 33:47 (July) 1921.

[4] Simpson, C. A., and Ellis, F. A.: Rhinoscleroma, Arch. Dermat. & Syph. 39:503 (Mar.) 1939.

[5] Levine, M., and Hoyt, R.: J. Clin. Inv. In press.

[6] Figi, F. A., and Thompson, L.: Rhinoscleroma, J.A.M.A. 91:637 (Sept. 1) 1928.

[7] Dill, J. L.: Rhinoscleroma—Report of One Case, Ann. Otol., Rhinol., & Laryngol., 52:496 (June) 1943.

[8] Second Intern. Congr. of Otolaryngology: Report on Rhinoscleroma, Arch. Otolaryngol., 18:381, 1933.

[9] Cunning, D. S., Guerry, D. P.: Scleroma, Arch. Otolaryngol., 36:622 (Nov.) 1942.

[10] Chamberlin, W. B.: Rhinoscleroma, Arch. Otolaryngol., 23:285 (March) 1936.

[11] a. Morrison, L. F.: Scleroma, Arch. Otolaryngol., 28:531 (Oct.) 1938. b. Schwartz, A. A.: Rhinoscleroma, Arch. Otolaryngol. 21: 199 (Feb.) 1935. c. Gadomski, C. F.: Rhinoscleroma, Arch. Otolaryngol., 29:681 (April) 1939.

lieve there is a striking similarity between this disease of the respiratory mucous membrane and leprosy of the skin. Both have an incubation period lasting many years, an insidious onset, and a chronic indolent course with little effect on the general health of the patient. They are both only slightly contagious. The mode of transmission is in each instance unknown but flies, fleas, bedbugs, and lice have been suggested as vectors.[8, 12] Both are associated with poverty, ignorance, close contacts, nutritional deficiencies, and probably constitutional factors.[13] Both are nodular and may originate in the nose. The organisms of both diseases are found in the same types of cells as the Mikulicz' and lepra cells are derived from the reticulo-endothelium. In both diseases the organisms are difficult to inoculate into animals. There is one striking difference: the organisms of rhinoscleroma are easily grown in pure culture from the granulomatous lesions, whereas the bacillus of leprosy has been cultured with difficulty if at all.

The bacillus of Frisch, now incorporated in the genus Klebsiella together with Friedländer's bacillus and named Klebsiella rhinoscleromatosis, is a capsulated, non-motile gram-negative rod occurring singly and in pairs, which grows easily on tryptose agar and other ordinary media, forming mucoid, confluent, whitish colonies. Although there has been some controversy as to its exact relation to the disease[9] and Topley and Wilson[14] still regard it as a secondary invader, it is now generally accepted as the etiologic agent.[6, 15] It is present not only in the nasal cavity of the patient suffering from scleroma but also in the lesion, where it is found either engulfed in Mikulicz' cells, polymorphonuclears and plasma cells, or free in the interstitial spaces.[4, 10, 16] Cunning and Guerry[9] advanced the hypothesis that it may be in symbiosis with a virus but in their six cases they were unable to find any inclusion bodies. All the more recent reports mention the constant isolation of the bacillus from the lesions. Lasagna[15b] and Sivak[17] have reported familial scleroma and isolation of the bacillus from practically all the members of the family affected with the lesion. So far there is no certainty of transmission of the disease to animals. However, Sercer[18a] was able to reproduce lesions in animals resembling the human disease, thus confirming previous reports of successful inoculation. Rivers [18b] points out that strict adherence to Koch's postulates may hinder the study of pathogenicity and that fulfillment is neither essential nor always desirable.

The serological tests have been more successful. Positive skin reactions occur, and agglutinins and complement-fixing antibodies have been demonstrated in the blood of patients.[1, 15, 19] The usefulness of complement fixation in detecting early cases of scleroma has been emphasized by Levine and Hoyt.[20] According to Belinoff,[21] it is positive in the very early stages of the disease and it may be the first means of diagnosis.

Treatment

The methods of treatment of this disease include x-ray[11c, 22] and radium therapy,[6, 13] surgical removal of the lesions, sulfonamides,[9] autogenous vaccine,[6] and numerous other agents including arsenicals and fever therapy. None has proven consistently effective except radiation and surgical treatment. Three cases were treated with sulfanilamide and two cases with sulfadiazine by Cunning and Guerry,[9] without lasting benefit.

Surgical removal of the lesion appears to be the treatment of choice when it is so located that it can be done, since x-ray and radium tend to increase the amount of cicatrization and stenosis. This aspect of therapy has been covered by Pardo-Castello and Dominguez,[23] Burak,[8] Figi and Thompson,[6] and others. Unfortunately in most cases the lesion is so diffuse that it is impractical to remove it surgically. Radiation by x-ray or radium or both, according to Peter,[22] Weiss,[13] Cunning and Guerry,[9] and others has been consistently effective in bringing about reduction in the size of the lesions by fibrosis. Peter[22] has outlined the technique of x-ray therapy.

Case Report

CASE 1.—S. D., age 48, is a Filipino male who had lived continuously on the Island of Hawaii for about

[12] Steinhaus, E. H.: Specific Bacteria Associated with Insects, Insect Microbiology—Comstock Publishing Company, Ithaca, N.Y., 1946, page 46.

[13] Weiss, J. A.: Scleroma: Histologic Changes Following Teleradium, Arch. Otolaryngol., 30:38 (July) 1939.

[14] Topley, W. W., and Wilson, G. S.: Principles of Bacteriology and Immunity, 2nd Edition, William Wood, Baltimore, 1936, page 1416.

[15] a. Berge, Ch.: Etude bactériologique d'un bacille de Frisch isolé du premier cas de Rhinosclérome publié en Tunisie, Arch. Inst. Pasteur de Tunis, 31:197 (Dec.) 1942. b. Lasagna, D. F.: Bacteriology of Scleroma, Arch. Otolaryngol., 18:396 (Sept.) 1933.

[16] a. Kellert, E.: Rhinoscleroma: report of a case, New England J. Med., 229:647 (Oct. 21) 1943. b. Alderson, H. G.: Rhinoscleroma: report of a case, Arch. Dermat. & Syph., 36:1018 (Nov.) 1937.

[17] Sivak, M.: Das Sklerom in der Slovakei, Monatschr. f. Ohrenh., 75:55 (Feb.) 1941 and 75:183 (April) 1941.

[18] a. Sercer, A.: Experimental Pathology of Scleroma, Arch. Otolaryngol., 18:395 (Sept.) 1933. b. Rivers, T. M.: Viruses and Koch's Postulates, J. Bact., 33:1 (Sept.) 1937.

[19] Neuber, E.: Serology and Allergy of Scleroma, Arch. Otolaryngol., 18:397 (Sept.) 1933.

[20] Levine, M., Hoyt, R.: Complement Fixation in Rhinoscleroma. To be published.

[21] Belinoff, S.: Der jetzige Stand der Skleromfrage, Zentrabl. f. Hals-Nasen ü Ohren., 26:193, 1936, Quoted by Haub.[1]

[22] Peter, G.: Treatment of Rhinoscleroma with Roentgen Rays, Radiology, 27:367, 1936.

[23] Pardo-Castello, V., & Dominguez, M. M.: Rhinoscleroma, Arch. Dermat. & Syph., 5:478, 1922.

fifteen years, and had worked for twelve years in the fireroom of a sugar mill prior to the time he was first seen in Kohala on September 30, 1943. At that time he complained of deafness and nasal obstruction. There was no pain.

Examination showed his tympanic membranes to be thickened. The nasal passages were very narrow. There was marked thickening of the septum and crusting of the mucous membrane, not suggestive of atrophic rhinitis. No odor was noted. An indurated ulcer was seen at the superior pole of each tonsil, the one on the left side extending well onto the soft palate. A biopsy from this lesion indicated chronic and subacute inflammation. No specific diagnosis was made. The Wassermann was negative. A tuberculin test was strongly positive. X-ray of the chest revealed a lesion which was interpreted as active tuberculosis of both upper lobes.

In 1944 the patient was admitted to Puumaile Hospital for Tuberculosis on the basis of the findings noted.

The patient had never had any pulmonary symptoms whatsoever and his weight had been constant throughout the present illness. There had not been any dyspnea, palpitation, or edema and his appetite was very good.

On physical examination the prominent findings were a granulomatous mass the size of a lima bean in the columella on both sides and definite partial obstruction of the nose because of a granulomatous lesion involving almost entirely the soft palate, left tonsillar fossa, pillars, posterior pharyngeal wall, and nasal passages. The sputum was repeatedly negative for tubercle bacilli. Several attempts to find the bacilli by concentration methods yielded negative results. Inoculation of sputum into a guinea pig was also negative. The pulmonary lesions were definitely arrested.

During the time he was in Puumaile Hospital there was no change in the films of the lungs. On the left side there were soft confluent densities in the extreme apex with the rest of the lung clear; on the right side there were a few soft spots and confluent density in the apex and first interspace with the remainder of the lung clear.

After seven months in the hospital, in view of the arrest of the pulmonary lesions and the repeatedly negative sputum, the patient was discharged with a diagnosis of pulmonary tuberculosis, inactive, arrested.

The report of the Eye, Ear, Nose and Throat consultant was as follows: Moderately large mass involving the columella (Fig. 1). This process involved the entire mucous membrane of the nose. The mouth showed a granulomatous mass involving the left posterolateral pharyngeal wall and the soft palate. The mucous membrane of the soft palate could be most directly observed. It was thickened and indurated, its color slightly bluish. It was slightly roughened. There was no active ulceration. However, in the nose, over the inferior turbinates and septum there was crusting and slight bleeding followed removal of these crusts. Kahn test negative. The tuberculin test was positive. Culture for fungus from the throat was negative.

A second biopsy was taken. Histologic report of this stated the specimen to be loose connective tissue heavily infiltered with lymphocytes, plasma cells, endothelial cells, and polymorphonuclears, and covered by stratified squamous epithelium of irregular thickness. Stain for tubercle bacillus or leprosy bacillus was negative. Diagnosis: Non-specific granuloma.

Since discharge from the hsopital the patient has resumed his duties on the plantation. He has become quite deaf but there are no granulations visible in the middle ear, only thickening of the tympanic membranes. The lesions in the palate, nasopharynx, and nose have healed to some extent with cicatrization and partial stricture of the nasal passages and nasopharynx. Presumably the deafness is due to disturbance of the Eustachian tubes but adequate examination was not carried out because of narrowing of the nasopharynx. The lesion in the columella has extended into the lip. Here the skin is intact but contains enlarged vessels. There are lesions about the pharynx and the arytenoids but none within the larynx. He is apparently in good health and suffers little discomfort other than nasal obstruction and deafness.

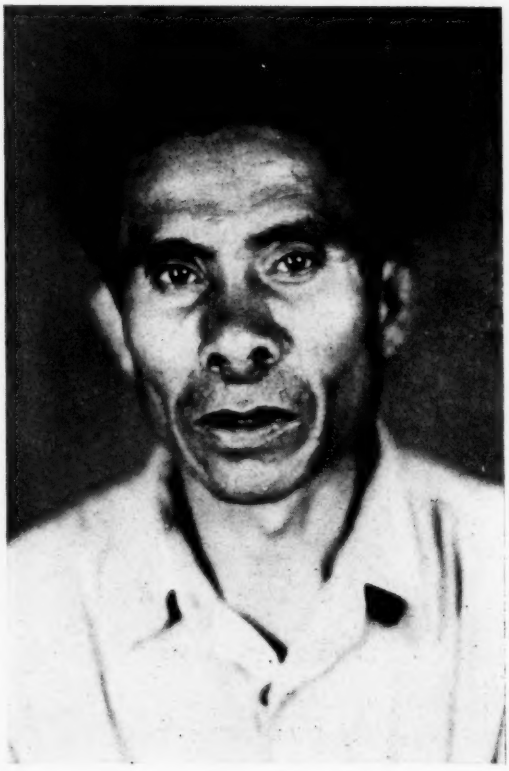

Fig. 1.—(Case 1) Characteristic bluish-red mass of rhinoscleroma in the nasal columella.

On February 12, 1947, a biopsy was taken from the lesion in the lip. The skin was incised and a specimen secured containing skin and subcutaneous tissue. The granulomatous material could be scooped out like mush. A culture was taken from it. There was moderate bleeding which subsided in a short time. The skin incision healed uneventfully.

The patient has recently been given Roentgen therapy but it is too early to indicate the results.

Pathological Laboratory Examinations

Microscopic Description of third biopsy:

The epidermis is rather thin and regular with only an occasional papillary projection into the dermis. The dermis itself shows only a moderate infiltration of round

cells, chiefly plasma cells. Deeper in the subcutaneous tissue there is a compact area, uniform in appearance under low power, except for a few strands of collagenous fibers which dissect coarsely the granulation tissue. Under high power the tissue shows many hemorrhagic areas and is made up chiefly of closely packed plasma cells mixed with which are many polymorphonuclears and cells of endothelial extraction. Here and there are seen clusters of large cells with rather dark nucleus and a clear cytoplasm (Mikulicz' cells). In some areas are seen cells containing a rather granular cytoplasm which stains faintly with eosin, and in still other areas are cells showing transitional changes between these two types. In examining the structure of the plasma cells, one may see that many of them are larger and that their cytoplasm is not uniform but tends to become granular and vacuolated. The impression is gained that the large vacuolated cells seen here and there represent the last stage of a degenerative process which involves the plasma cells. In some areas one can see small or large round globes sometimes showing a pyknotic nucleus and staining very intensely with eosin (Russel's bodies). Their presence among plasma cells, their size and their shape seem to indicate that they are plasma cells that have undergone hyaline necrosis. Bacilli, either single or in couples, are found inside many cells as well as free in the interstitial spaces; they are not by any means, limited to the large vacuolated cells (Figs. 2, 3, 4).

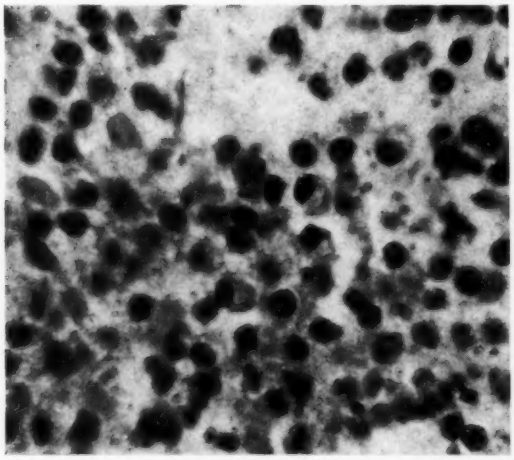

Fig. 2.—(Case 1) Photomicrograph of granulation tissue showing plasma cells.

Re-examination of the original slides shows exactly the same prevalence of plasma cells, Mikulicz' cells, and occasional Russel's hyaline globes. However, sclerosis in areas is more diffuse indicating a more advanced process.

Bacteriological examination (with the technical assistance of Mr. Minette):

Organisms isolated in pure culture on blood agar and chocolate agar are short, plump, non-motile, encapsulated, gram-negative rods. They have rounded ends and vary in size from approximately two to six microns. Agar slant: Growth white, moist, and spreading. Gelatin stab: White convex surface with no liquefaction.

Serum: Growth with no digestion of the medium. Nitrites produced from nitrates in 48 hours. Indole not formed. Sugar fermentation: Ferments glucose, levulose, mannitol, maltose, arabinose with production of acid but no gas. It does not ferment lactose. Saccharose is fermented only after 96 hours. Litmus milk: No change. Hydrogen sulfide not produced.

The patient's serum agglutinated the organism in dilution 1:80. Complement fixation was reported by Dr. Levine to be strongly positive up to a dilution of 1:320.

The patient's serum did not swell the capsule of the organism and did not inhibit growth when added to culture medium under aseptic conditions.

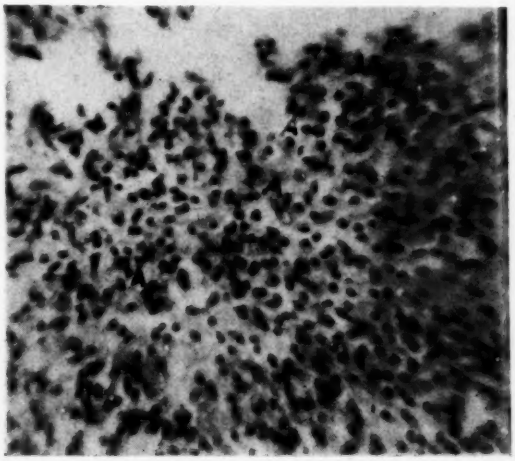

Fig. 3.—(Case 1) Mikulicz cells are shown at points marked "A".

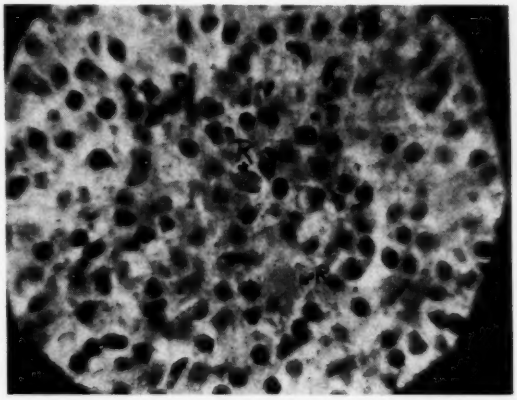

Fig. 4.—(Case 1) Russel's bodies are shown at points marked "R". The lower one is a plasma cell in process of changing. Its cytoplasm is intensely eosinophilic.

Comment

In this first case the lesion is that of the third stage in which Mikulicz' cells and Russel's bodies are usually present. At this point we would like to mention that even in the second stage, which, because of the predominance of plasma cells and

new capillary formation, may suggest syphilis, a diagnosis can be reached if the condition is kept in mind, the Wassermann is negative, and a culture is taken from the lesion.

It is well known from the studies of Maximow,[24] Ferrata,[25] and others that the plasma cells are derived from the reticulo-endothelium and may undergo various changes in the course of inflammation. Maximow described a process of pyknosis of the nucleus and protoplasmic regression, and Juspa and Negreiros-Rinaldi[25] a vacuolar degeneration of the protoplasm. It seems to us that in rhinoscleroma both processes take place, one of pyknosis and protoplasmic regression, which may lead to the formation of Russel's bodies, and the other of vacuolization, leading to Mikulicz' cells. Whether plasma cells contribute also to the formation of sclerotic tissue, or whether other reticular cells are involved in this process, it is not possible to say from the examination of sections.

Case Report

CASE 2.—A.C., a Portuguese male, age 54, was born in Honokaa and spent his life there. His occupation was that of field overseer on a sugar plantation. He was first seen on December 31, 1938. He complained of hoarseness of four months' duration, which was becoming gradually worse, and of shortness of breath. Pain and cough were associated with the beginning of the hoarseness. His past history showed nothing remarkable. Two brothers and sisters were living and apparently in good health. There was no nasal or postnasal discharge. The tonsils were not markedly enlarged but were red. There were thickening and edema of the cords on both sides, particularly the anterior portions of the cords. On the left side there was an ulcerated area on an indurated base involving the anterior half of this cord. The larynx was rather difficult to examine because of the patient's large tongue. A tentative diagnosis of carcinoma was made.

A direct laryngoscopy showed diffuse thickening of the anterior portion of both cords and a prominent induration with broken epithelium on the surface of the anterior portion of the left cord. A biopsy was taken from this area.

The Wassermann was negative on two occasions. There was no evidence of tuberculosis in the radiograph of the chest.

The pathologic report revealed a chronic inflammatory process and probable granuloma of the larynx. The pathologist remarked that the type of infiltration bore a slight resemblance to leprosy, although the same appearance could be produced by edema. (The large Mikulicz' cells may easily be confused with lepra cells, especially in a country like Hawaii where leprosy is endemic.) However, bacteriological examination revealed absence of Hansen's bacillus.

On January 24, 1939, the hoarseness had increased, there was some laryngeal obstruction, and the lesion in the left cord had increased in size. It appeared that the lesion was becoming obstructive and, with the indefinite microscopic diagnosis, that it might be malignant. Also, the biopsy might not have been taken from the proper area. On January 25, following a low tracheotomy, the larynx was exposed by laryngofissure and the major portion of the left cord removed with the lesion, which consisted of a hard nodule extending into the subglottic region. Its margin showed rather distinct demarcation from the slightly edematous tissue surrounding it.

Tissue sections were examined by several pathologists but the opinion was that the tissue was neither tuberculosis nor syphilis and that organisms of leprosy were not found.

Attempts were made to culture fungi from the lesion. A growth was obtained and the material was sent to Dr. Karl Meyer of the Hooper Foundation for examination. The fungus was studied by C. E. Smith of Stanford University who concluded that it was not Coccidioides immitis but, instead, a Basidiomycete. Guinea pigs injected intraperitoneally and intratesticularly with a heavy suspension of the fungus showed no signs of illness and no demonstrable lesions. Smith came to the conclusion that the fungus in question was nonpathogenic.

Because of the assumption that the lesion was either neoplastic or one of the more common granulomatous lesions (tuberculous, syphilitic, leprous, or coccidioidomycotic), the bacteriological study was rather neglected. One culture taken showed only staphylococcus.

The removal of the lesion brought improvement in the condition of the patient. Post-operative x-ray therapy amounting to 1080r was given. The lesion healed slowly. The tracheotomy tube was removed three months after operation. The last time he was seen, nine months after operation, he had a fair voice of rough quality. He was phonating with the ventricular bands. The right band was thicker than normal. The right vocal chord was normal. The left cord was absent and the mucous membrane on that side smooth. There was a good airway. The patient was breathing without difficulty and working steadily. He was not seen again. He died five years later with intestinal obstruction and cardiac asthma.

Recently, in light of the knowledge gained in the first case, the slides have been reviewed and a retrospective diagnosis of rhinoscleroma made on the basis of the cellular elements present (Fig. 5). This diagnosis appears reasonable, but it is unfortunate that further bacteriological and serological examinations cannot be carried out.

It is interesting to note that Farges, Barrat, and Berge[26] reported a case in 1942 in which nasopharyngeal and laryngeal lesions were removed surgically by electrocoagulation, the laryngeal lesions through laryngofissure.

Pathological Laboratory Examinations

Microscopic Description:

One section shows an epithelial surface and underneath the epithelium diffuse sclerosis which splits some muscular bundles present in one corner of the section. In several areas one is able to see small clusters of round cells, predominantly plasma cells, grouped chiefly around glandular lumina, and in the midst of them clusters of cells with clear or foamy cytoplasm. Here and there, however, are seen cells with clear cytoplasm as well as

[24] Maximow, A. A.: The Connective Tissue, In Maximow and Bloom, Text book of Histology, 4th Edition, Saunders, Philadelphia, 1942, page 60.

[25] Ferrata: Plasmazellen, in Le Emopatie, Soc. Ed. Libraria, Milano, 1934, page 415.

[26] Farges, M., Barrat, P., and Berge, C.: Un cas de rhinosclérome, Rev. de Laryng., 63:80 (Feb.) 1942.

cells with pyknotic nucleus and a cytoplasm intensely stained by eosin.

Another section shows a hyperplastic epithelium and some edematous fibrous tissue studded with numerous hemorrhagic areas. More numerous around the glandular lobules but present throughout the tissue are seen numerous plasma cells, polymorphonuclears, and fibroblasts. Among the plasma cells are noticed larger elements which have a foamy cytoplasm and which seem to be transitional between the plasma cells and cells with a clear cytoplasm. The tissue is very vascular and congested and blood cells are very common outside the vessel walls.

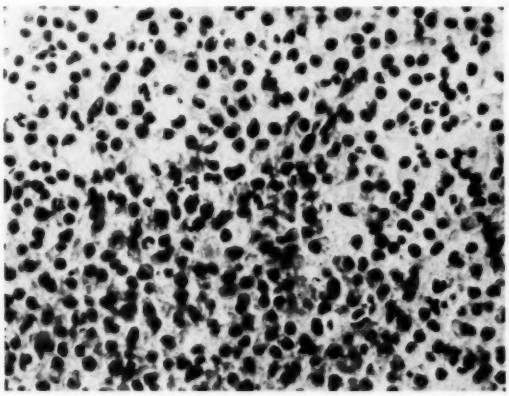

Fig. 5.—(Case 2) This field shows plasma cells, and cells with dark nucleus and clear cytoplasm (Mikulicz' cells), as well as polymorphonuclears and fibroblasts. In the lower right portion of the field is seen a cell with pyknotic nucleus and unevenly stained cytoplasm, probably a plasma cell undergoing transformation into a hyaline body (Russel's body). (Photomicrograph by Dr. I. L. Tilden.)

Sections from other parts of the larynx show essentially the same characteristics as those described already except for variations in the degree of sclerosis, vascularity, presence of polymorphonuclears, and so on.

Summary

We have reported what we believe to be the first two cases of rhinoscleroma recognized in the Hawaiian Islands. The condition may be more common than is generally supposed and should be strongly considered when a diagnosis of nonspecific granuloma of the upper respiratory tract is made from biopsy material. The second case must have originated in Hawaii. In the first there is presumptive evidence that the disease was contracted here but, because of the long incubation period, this cannot be stated with certainty.

Conclusions

1. Rhinoscleroma occurs in Hawaii.

2. The diagnosis can be readily established by complement fixation, bacteriological examination, and biopsy.

3. The treatment of choice appears to be surgical removal of isolated lesions supplemented by radiation therapy, or radiation alone when surgical therapy is impractical.

4. The disease should be suspected when a granulomatous lesion of the upper respiratory tract is encountered.

Acknowledgment

We are indebted to H. Minette of the Board of Health Laboratory, Hilo, for technical assistance and R. D. Fillmore, M.D., Kohala, for photographs of Case 1.

Discussion

DR. IRVIN L. TILDEN: The discovery of a new disease in Hawaii is a noteworthy event and important to all of us. The authors were kind enough to send me a slide from the first case, and I fully agree with the histologic observations which have been made. The clinical features and bacteriologic studies in addition leave no doubt as to the correctness of the diagnosis. In case 2 there can be little room for doubt although bacteriologic confirmation was not obtained.

The analogy between rhinoscleroma and leprosy is a good one, but mainly from the clinical rather than the histologic standpoint. Incidentally, it is lepromatous rather than tuberculoid leprosy to which the authors refer, since the latter does not involve mucous membranes. Upon careful analysis the histologic differences between these two diseases are really quite striking. This is in part true because the plasma cell, which is the hallmark of rhinoscleroma, is relatively infrequent in all types of leprosy, lymphocytes being much more numerous; and it is in part true because the large pale Mikulicz cells owe their appearance to some factor other than a high intracellular lipid content which characteristically produces the "foamy" appearance of the lepra cells. There can be no question, however, but that both the Mikulicz cells of rhinoscleroma and the lepra cells of lepromatous leprosy are derived from reticuloendothelium.

Perhaps a more striking analogy, at least from the histologic and bacteriologic standpoint, exists between rhinoscleroma and granuloma inguinale. This was emphasized by Dr. Spitz at the Seminar on Tropical Diseases of the American Society of Clinical Pathologists in 1944. Both are characterized by many plasma cells, and large clear cells which contain bacteria. These bacteria (the Donovan bodies) in the case of granuloma inguinale may be stained very beautifully by various silver methods devised for demonstrating spirochetes, and I saw a number of these preparations at the Army Institute of Pathology last year.

I would like to throw one slide on the screen which shows an unusually large number of Mikulicz cells. The eosinophilic Russel bodies, the plasma cells, and the dark staining clumps of bacteria are well shown. But I should emphasize that the basic histologic findings are identical with those in at least the first case presented by the authors, differing only in degree.

Acute Suppurative Appendicitis in Measles

ROGERS LEE HILL, M.D.
HONOLULU

IN 1886, Fitz[1] introduced the term acute appendicitis and proved that the symptoms of typhlitis were in reality due to acute appendicitis. This met with approval in this country and was generally accepted soon afterwards.

Measles[2] is an acute communicable disease manifested by fever, coryza, conjunctivitis, photophobia, buccal spots, lacrimation, and cough, which initiate a red maculopapular eruption over the entire body surface, terminating by a fine bran-like desquamation.

The widespread prevalence of measles is generally well known, few adults escaping the disease during childhood. Likewise, the frequency with which acute appendicitis is encountered makes it the most common major surgical disease today. The concomitant occurrence of the two diseases is uncommonly encountered, and pediatric textbooks fail in most instances to even casually mention the rare combination.

I was able to find a very brief mention of it in only one textbook,[3] Rolleston and Ronaldson's *Acute Infectious Diseases*. They emphasized temporizing because of the rarity of suppuration at any stage. This generally held concept has been due, no doubt, to the fact that abdominal symptoms are frequently encountered in measles, particularly in the prodromal stage, and have been definitely established as a pseudo-appendicitis syndrome of measles. We have many of us had the opportunity to observe this phenomenon at sometime in our clinical experience. The following excerpt from J. M. T. Finney's autobiography,[4] *A Surgeon's Life*, relating an incident, about 1900, typifies the pseudo-appendicitis syndrome.

Dr. Finney was called in consultation to see a 17 year old girl with some of the characteristic signs of acute appendicitis, namely: high temperature, rapid pulse, and abdominal pain with tenderness. Operation failed to reveal appendicitis, and thirty-six hours later she developed a typical measles rash.

The experience of Dr. Finney has been corroborated by almost all physicians who have had an extensive experience with measles. The pseudo-appendicitis syndrome has been so universally accepted that it has resulted in the adoption of a conservative attitude, and rightly so, because in the majority of patients the symptoms subside without local sequelae. Because of this attitude a few patients who have suppurative appendicitis are allowed to perforate, with a subsequent high mortality rate or prolonged convalescence from complications. At the Willard Parker Hospital,[5] where the most interest in this has been manifested, far-advanced appendicitis is the general rule, because of the apparent delay in diagnosis and surgical intervention.

In the report by Panum and Manicus of a measles epidemic on the Faroe Islands, in 1846, a syndrome that strongly suggests appendicitis is described. They speak of abdominal pain, rigidity, tenderness, and vomiting with death or slow recovery. Undoubtedly some of these were cases of measles complicated by acute appendicitis. Due to the fact that this occurred prior to the general recognition of appendicitis as a clinical entity, diagnosis was not made.

Credit is usually given to Williams[6] for the first description of appendicitis complicating measles. In 1901, he reported the case of a twelve year old boy who developed symptoms of appendicitis following the appearance of the rash. He was successfully operated upon by Cabot and the tissue report by Mallory revealed acute inflammation with concretion and pus within the lumen of the appendix.

In 1928, Popper[7] reported the case of a man twenty-six years of age with the signs of acute appendicitis. Under the operating light a measles rash was barely discernible and on the following day was well developed. In this same year Fischer,[8] reporting on 3,000 cases of appendicitis, noted the association of measles in three cases. All these recovered, but two had a very stormy convalescence.

Rost[9] believed that the association between the two diseases was rare and reported a case in a

Read before the Fifty-Seventh Annual Meeting of the Hawaii Territorial Medical Association, May 2, 1947.

[1] Fitz, R.: Perforating inflammation of the vermiform appendix with special reference to its early diagnosis and treatment, Am. J. Med. Sci. 92:321, 1886.

[2] Strong, R. A.: In Brenneman's Practice of Pediatrics, Hagerstown, Maryland. W. F. Prior Co., Inc. Volume 2, Chapter 11.

[3] Rolleston, J. D., and Ronaldson, G. W.: Acute infectious diseases, Third edition. 477 pp. St. Louis, C. V. Mosby Company, 1940.

[4] Finney, J. M. T.: A Surgeon's Life.

[5] Bullowa, J. G. M., McCabe, E. J. and Wishik, S. M.: Acute appendicitis in exanthems, Am. J. Dis. Child. 53:1029-1038, 1937.

[6] Williams, H.: Measles complicated by appendicitis, Boston Med. and Surg. J. 144:642, 1901.

[7] Popper, H. L.: Appendicitis und Masern, Medical Klin. 24:493, 1928.

[8] Fischer, A.: Appendicitis und Masern, Zentralbl. f. Chir. 55: 1546, 1928.

[9] Rost, F.: Uber Appendicitis bei Masern, Zentralbl. f. Chir. 55:905, 1928.

young boy, who developed a perforation of the appendix while under observation for measles. A successful drainage of an appendiceal abscess was accomplished, seven days after the onset of the symptoms, and twelve days after the onset of the measles. He made inquiries among various surgeons and pediatricians in Germany, but unfortunately did not state the number of cases collected. It was his opinion that the occurrence was of more than a coincidental nature, and that gangrene was apt to occur rapidly.

In 1932, Trepel[10] added two cases by Gottstein and Kutner to eleven of her own, collected between 1921 and 1931. She stressed the apparent fulminating aspects of the appendicitis and believed that operative delay was unwise. In this same year Ferru,[11] Herzberg,[12] Finkeldey,[13] Thenebe, Hirschberg, Cenci,[14] Davidson, Mora[15] and Hathaway[16] added another fourteen cases, occurring during the different stages of measles.

TABLE 1.—*Incidence of Measles in the Territory of Hawaii.*

	Number of cases	Cases of appendicitis	Incidence
Bullowa, McCabe and Wishik	6,357	11	.17%
Goodman and Silverman	8,997	24	.27%
Territory of Hawaii	41,080	3	.0073%

In 1936 Hudson and Krakower[17] added nine cases to the previously reported thirty-one, making a total of forty cases. They concluded that there was an intimate relationship between the two diseases and mentioned for the first time that measles might be an etiologic factor in the development of appendicitis.

Bullowa, McCabe and Wishik,[5] in discussing acute appendicitis in the exanthems, reported eleven cases out of a total of 6,357 (.17%) treated at the Willard Parker Hospital. This study was continued and elaborated upon by Goodman and Silverman[18] in 1943, with an additional 24 cases in 8,997 admissions, or a total of 35 cases of acute appendicitis among 15,354 measles patients (.23%). This makes a grand total of 75 cases reported in the available literature. Undoubtedly many cases have either not been reported or not been satisfactorily diagnosed.

TABLE 2.—*Incidence of Measles in the Territory of Hawaii, 1921-1946*

1921		328	
1922		2,211	
1923		195	
1924		505	
1925		362	
1926		1,481	
1927		288	
1928		425	
1929		598	
1930		1,499	
1931		1,982	
1932		20	
1933		28	X
1934		48	
1935		83	
1936		10,678	
1937		1,034	X
1938		98	
1939		151	
1940		3,070	
1941		737	
1942		150	
1943		948	
1944			
1944	July	978	X
1944	August	815	
1945	June 30,	10,374	
1946	June 30,	1,994	
		41,080	

X———Denotes year of occurrence of acute appendicitis in measles.

The incidence of occurrence of appendicitis in measles has been established by Bullowa, McCabe, and Wishik,[5] and Goodman and Silverman[18] as .23%, or 35 cases in 15,354 admissions. I was unable to find any other reference to the incidence of occurrence except vague statements as to its rarity, and Fischer's[8] collection of three cases of measles in 3,000 cases of appendicitis, which is of course valueless from a statistical standpoint. It occurred to me that while the above survey results in a mathematically accurate statement, the veracity of the interpretation could be subjected to considerable criticism. The Willard Parker Hospital is a large hospital in New York, established primarily for the treatment of contagious diseases. The chances are that there is likely to be an unusually large number of patients with measles admitted exhibiting the various complications. This would result in a discrepancy in statistics which would reveal a higher rate of incidence of appendicitis than would ordinarily be the case, if one considered the large number of cases treated at home with a proportionate low incidence of appendicitis, or none at all.

Here in the Territory of Hawaii we have an excellent opportunity for collecting data in making statistical surveys without the interjection of

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discrepancies and errors of interpretation as are likely to exist in mainland communities. I have been able in the past few years to collect three cases of acute appendicitis in measles in Hawaii by way of searching hospital files and personal inquiries. Since 1921 there have been 41,080 cases of measles reported to the Board of Health. Three cases of acute appendicitis in 41,080 cases of measles results in an incidence of .0073%, considerably lower than that reported by Bullowa, McCabe, and Wishik,[5] or Goodman and Silverman[18]. While some justifiable criticism may be advanced, due to laxity in reporting cases or improper diagnosis, I believe that in general it represents for the first time an accurate appraisal of the incidence of concomitant occurrence of these two common diseases.

Case Reports

CASE 1.—F.J., a white man, a patient of Dr. W. H. Wynn,[19] 26 years old, was admitted to The Queen's Hospital January 7, 1937, complaining of epigastric pain. He was nauseated and had vomited once. He also had a slight cold of four days' duration and associated cough. The pain settled in the right lower quadrant in twenty-four hours.

Physical examination revealed an injected throat, temperature 103, injected conjunctiva with lacrimation, and white flaky spots on the buccal mucosa. There was definite point tenderness over the appendiceal area. The urine was negative but no blood count was recorded.

On January 8, 1937, Dr. W. H. Wynn operated upon the patient under a general anesthetic and removed an acutely inflamed appendix covered with a fibrinous exudate. The temperature remained elevated and two days following operation a generalized maculopapular rash typical of measles made its appearance, and a history of exposure was obtained at this point. The measles ran a typical course and the cutaneous manifestations terminated with desquamation. No abdominal complications were observed and the patient was discharged on the eighth day, apparently recovered from both the measles and the appendicitis.

Pathological report: The appendix was 8 cm. long, the lumen dilated and filled with purulent fluid. Microscopic section revealed a diffuse polymorphonuclear infiltration throughout all of the coats, with beginning necrosis of tissue. It was diagnosed as an acute suppurative appendicitis.

CASE 2.—An Oriental male about nine years of age was seen by Dr. Merton Mack[20] during a measles epidemic of the early 1930's, with typical general and cutaneous manifestations of measles. There was no doubt about the diagnosis, and other members of the family were also ill with the same disease. He had high fever and some abdominal discomfort but not much pain. There was some distention present which persisted after an enema.

A diagnosis of appendicitis could not be made on the abdominal findings at this time. Under observation the discomfort and distention persisted and it became apparent that there was a strong possibility of appendicitis associated with the measles. He was sent to a hospital where a laparotomy revealed an acutely inflamed appendix with free fluid in the peritoneal cavity. The record is not available, unfortunately, and Dr. Mack does not remember the surgeon. He stated, however, the diagnosis was definitely established at the time and he was pretty sure peritonitis did not ensue, as the convalescence was uneventful.

CASE 3.—J.S., a Portuguese-English girl, seven years of age, was admitted by me to The Children's Hospital, Aug. 29, 1944 with a complaint of left lower quadrant abdominal pain of eight hours' duration. Her mother stated that she had had a cold for a few days and that there had been a definite exposure to measles. Examination revealed a temperature of 105 with moderate dehydration, tachycardia and extreme restlessness. She had a definite cold associated with a cough and mildly inflamed conjunctiva. The skin exhibited a slight rash over the face. Abdominal examination revealed moderate tenderness in the left lower quadrant.

The abdominal pain continued and was associated with nausea and vomiting. On the following day she appeared quite ill. The temperature was elevated and the abdomen revealed marked tenderness and muscle spasm in the left lower quadrant. The heart appeared to be in the normal position and there was normal right-sided liver dullness. The white blood count had increased to 21,000, the majority being polymorphonuclear leukocytes. The rash had become more evident, was more generalized in nature, and appeared to be unquestionably measles.

After preliminary hydration, a general anesthetic was administered and a left lower rectus incision revealed a gangrenous appendix surrounded by foul smelling pus and acutely inflamed adjacent loops of bowel and bladder. It apparently originated from the cecum, which occupied a mid-line position, and lay in the left lower quadrant behind the bladder and sigmoid colon. The appendix was removed and drains were inserted behind the bladder and well down into the pelvis.

Her post-operative course was very smooth for the first seven days, temperature declined quickly to 99F. and her general condition improved, with the disappearance of the rash, which was followed by the typical desquamation.

One week after the operation, she developed a bilateral otitis media which necessitated drainage. She continued to run an elevated temperature with peaks up to 105F. She developed pain, tenderness, and muscle spasm in the right upper quadrant associated with an elevation, irregularity and immobility of the right hemidiaphragm. There was a questionable mass also in the right lower quadrant. These signs and symptoms increased despite sulfathiazole, parenteral sulfadiazine and penicillin therapy. After repeated small blood transfusions, the right subphrenic space was explored and although no pus was encountered, a marked inflammatory reaction was present in this area. Under the anesthetic a mass in the right lower quadrant was palpable, which was drained in an extraperitoneal approach.

Following this procedure she improved until Oct. 5, 1944, at which time she developed a pelvic abscess that was successfully drained through the rectum. Her wounds healed and she was finally discharged from the hospital on Oct. 20, 1944, greatly improved, and slowly returned to normal.

[19] Personal communication and Queen's Hospital record.
[20] Personal communication.

Pathological report by Dr. Thomas Fujiwara:

The appendix is 7 cm. long and grossly gangrenous in areas. There is a fecalith in the mid portion. The lumen is filled with necrotic material. Sections taken show the wall to be greatly thickened, edematous and in many areas completely necrotic. Sections taken from the less inflamed process revealed, in addition to the acute inflammatory process, marked hyperplasia of the submucosal lymphoid tissue. Within the germinal centers are numerous multinucleated masses which present vesicular nuclei similar to those of the early lymphoid and reticulo-endothelial cells. The cytoplasm is very scanty and the cell outline is indistinct. They are unlike the foreign body giant cells or the Langerhans cells found in tuberculosis. Diagnosis: Acute purulent appendicitis. Measles.

Discussion

In 1931, Warthin[21] and Finkeldey[27] described multinucleate giant cells in tonsils, adenoids and adjacent mucous membranes in the prodromal stage of measles. These had been previously described by Alagna in 1908 but its importance had escaped attention.

Herzberg[12] reported in 1932 the finding of similar giant cells in the lymph follicles of an appendix removed from a child six years old, who had a typical measles rash following the operation. Davidsohn and Mora[15] described the characteristic giant cells in four cases and noted that they were more abundant in the prodromal stages, than in those after the eruption was well developed. They attributed the scarcity at this stage to the diffuse inflammatory reaction which obscured the picture.

In 1935 Hathaway[16] reported the autopsy findings in suppurative appendicitis in measles and discovered the multi-nucleate giant cells in the spleen and scattered lymph nodes. Since then they have been found in many appendices by observant pathologists. Hathaway described these giant cells as characteristic and unlike other giant cells in appearance and location.

The cells are large, round or irregular shaped with much basophilic or eosinophilic cytoplasm. There may be from three to fifty, round lightly staining nuclei characteristically clumped together in the center of the cell. These giant cells are now recognized as a specific reaction to the measles virus or its toxin[27, 28] and have been called the Warthin-Finkeldey giant cells of measles.

In 1933, Fischer[22] and Shultze,[23] working independently, were able to correctly diagnose measles by identifying these giant cells in an otherwise normal appendix. In each instance the patient developed a typical rash as predicted by these pathologists.

Gordon and Knighton[24] have recently utilized the giant cell reaction as a criterion for the transmissibility of measles from man to monkey.

A careful study of all the available case reports of appendicitis in measles reveals some important clinical facts. The onset of the abdominal symptoms may occur at any phase of the contagious disease, but is more frequent after the cutaneous manifestations appear. This observation is important because it reveals the astonishing fact that practically all of these cases developed peritonitis from perforation of the appendix. The time interval between onset of symptoms and operation averaged three days. It is evident, at once, that the delay in diagnosis or surgical intervention is due chiefly to the presence of the *rash*. This delay has not been evident in those cases exhibiting abdominal symptoms during the prodromal or pre-eruptive stages of measles, and consequently the majority of unperforated appendices fall in this class.

This delay in diagnosis or surgical intervention with subsequent perforation and its attendant complications is due to the following causes:

1. The concomitant occurrence of two diseases. From time immemorial physicians have been loath to make two diagnoses, when one diagnosis will suffice to explain all symptoms. This precedent, often emphasized by Osler, has become so well established that it is difficult to abolish.

2. The presence of the pseudo-appendicitis syndrome. The abdominal symptoms of measles have long been known and have led to many untimely and unwarranted operative procedures. Differentiation between the pseudo-appendicitis syndrome and acute appendicitis may be extremely difficult but is very important, if one wishes to eliminate unnecessary or untimely operations and still prevent perforation and peritonitis. Some help may be obtained by realizing that the pseudo-appendicitis syndrome only occurs in the prodromal stages, and the development of abdominal symptoms after the rash occurs is likely to be due to acute appendicitis. The leukocyte count is of some value as it will usually be low in the pseudo-appendicitis syndrome while in acute appendicitis, the polymorphonuclears respond as they do without the underlying contagious disease. Careful observation of the case exhibiting abdominal pain in the pre-eruptive stage is necessary

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because acute appendicitis may also occur at this time.

3. The presence of the rash may divert the physician's attention away from the abdominal signs.

4. Hesitancy to recommend operation. From all of the data reviewed an operation during measles may safely be performed. There have been no serious respiratory complications. Recovery has usually been satisfactory.

5. The protean nature of the symptoms of acute appendicitis in childhood. The average age of the collected cases was 5 to 8 years, with males predominating. It is occasionally wiser to proceed with an operation in case of serious doubt, due to the extreme difficulty in arriving at a correct diagnosis in children.

Finally, the development of acute appendicitis in measles may be purely coincidental or it may be related in a manner similar to respiratory or enteric infections, as has been long suspected. The fact that the pathogenesis of appendicitis is still not clearly defined makes a discussion of the intimate relationship of the two diseases difficult. Etiologic factors such as obstruction, interference with blood supply and bacterial invasion by hematogenous or enteric routes have all been postulated.

An attempt to correlate and unify the above facts into an orderly sequence of events, while inconclusive, necessitates the development of a theory. Two theories have been postulated and elaborated by various authors.

The first theory is that the lymphoid hyperplasia, with or without catarrhal enteritis, sets up a chain of circumstances leading to interference with drainage and circulation in the appendix and resulting in bacterial invasion. The evidence in support of this theory is that measles cause a moderate hyperplasia of lymphoid tissue throughout the body, including the appendix, which is well endowed with lymphoid structures. Some credence may be given to this theory by the demonstration of Hwang and Krumbhaar,[25] that the percentage of lymphatic tissue in the appendix is greatest between the ages of one and ten and the female appendix contains less lymphatic tissue than the male throughout life.

The second theory is that the pathogenic agent of measles, being a filterable virus, present in the blood and nasal secretions, may reach the appendix and traumatize the organ sufficiently to cause a virus appendicitis. This may then predispose the tissue to further invasion by bacterial organisms. The pseudo-appendicitis syndrome of measles may in reality be an appendicitis due to an actual inflammation of the appendix of virus origin.

Under ordinary circumstances the abdominal symptomatology[26] may be specific enough to warrant early diagnosis and removal of an inflamed appendix. Under other circumstances, in which the abdominal symptoms develop during the course of a non-related disorder, there may be a strong tendency to correlate the symptoms with the pre-existing disorder, rather than to explain them on the basis of an independent lesion. The incorrect interpretation of the abdominal symptoms results in a delay in diagnosis and endangers the life of the patient, whose best chance for survival depends upon the early removal of an inflamed appendix.

Summary

A discussion and review of the literature concerning the concomitant occurrence of appendicitis in measles is included in this study. The reported incidence of occurrence has been given as .23%. Three cases of appendicitis are reported in the Territory of Hawaii in 41,080 cases of measles reported to the Board of Health since 1921. The incidence of occurrence is .0073%.

The presence of characteristic giant cells of measles in the appendix is described and a discussion of their relative importance is given.

The causes of delay in diagnosis and surgical intervention are discussed, and the chief deterrent in the past has been the presence of the rash which tended to divert the attention from the abdominal symptoms to the general manifestations of measles, with subsequent appendiceal perforation and its attendant complications. The importance of differentiating between the abdominal symptoms of measles and the concomitant occurrence of acute appendicitis is stressed in order to prevent unwarranted operative procedures or temporizing measures, which are prejudicial to the best interests of the patient as his best chances for survival lie in the early removal of an acutely inflamed appendix.

There is some evidence that the concomitant occurence of appendicitis in measles is more than of a purely coincidental nature.

Young Hotel Building

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Management of the Allergic Patient

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THE management of the allergic patient may be approached in several ways. In individuals in which the specific etiological factors causing the allergic reactions have been uncovered, the principles of treatment are aimed at two objectives, namely;

1. The elimination or avoidance in the environment and diet, of both specific and contributory factors.
2. Desensitization (lessening of sensitization) to factors which cannot be completely avoided.

In individuals in which the specific etiologic factors cannot be determined, and also as an aid and adjunct in the control of acute phases of the disease a third method presents itself;

3. Symptomatic treatment including drug therapy.

To the above three methods may be added a fourth whose usefulness is gaining wide recognition among men in the field of allergy;

4. Prophylaxis.

Elimination and Avoidance of Specific Allergens

The ideal mode of treatment of an allergic individual is the complete abstinence from and avoidance of contact with all specific factors which call forth his allergic response. This is ideal because it obviates other modes of therapy, but is only successful in a small percentage of cases, and only in those few manifesting sensitivity to a single or at most a few specific allergens. As an example, an individual sensitive to shellfish, and perhaps one or two other allergens, like mushroom and mustard, if intelligent and observant can cure himself by simple abstinence from the offending foods. On the other hand, one clinically sensitive to wheat, eggs, milk and perhaps cottonseed presents an entirely different problem, one which taxes our ingenuity and demands our every effort. In many instances a mere trace of a specific food in the diet may precipitate symptoms and upset a well organized program of management. It is therefor not sufficient to merely tell the patient to avoid wheat, eggs or milk, but to instruct him how these items are used, and what products contain them, not only the products but frequently the brand.

Clinical food sensitivity as a rule is more prevalent in infancy and childhood, but experience here seems to indicate that the incidence in adults in the islands is greater than that found in the mainland. This observation is based on therapeutic tests and not on skin tests alone.

When one adds the avoidance of environmental factors to those of food, one is faced with a problem which calls for absolute understanding of what is required to be done by the patient, and for his complete fulfilment of these requirements. This is a matter of education of the individual patient, the responsibility of the physician handling the case. To eliminate dusts from the environment calls for meticulous attention to every detail. It is not possible to completely avoid allergic active dusts in a patient's environment. One aims however at the control of such dusts in chosen places in the environment, principally where the dust-sensitive patient comes in contact with effective dusts in greater concentrations and for a longer period of time than he does elsewhere: in the bedroom, for example. Allergic active dusts are chiefly products of the processes of ageing and decomposition of organic materials, such as cotton, kapok or silk floss, feathers and similar materials used in the stuffing of mattresses, pillows and furniture. It has been shown that such ageing and decomposition occurs with greater rapidity in warm, humid climates than in colder areas. To attain as nearly perfect dust control as possible, dust-sensitive cases are instructed to completely encase mattresses and pillows with an impervious material, in addition to maintaining their homes in as dust-free a condition as possible. Where such precautions are carried out, prompt relief is usually obtained.

The use of mechanical air filters with a high degree of efficiency for dust and pollen removal has been repeatedly demonstrated to be effective. For this method, filters of the cellulose type are far more efficacious than the impingement or water type of filtering device.

The elimination from the environment of other inhalant factors such as animal hairs and dander, silk, wool, orris root and pyrethrum is comparatively simple if attention is paid to the minutiae of home management.

Read before the Fifty-Seventh Annual Meeting of the Hawaii Territorial Medical Association, May 2, 1947.

Desensitization

In many instances it is quite impossible to completely avoid offending allergens because of their ubiquitous nature. Among these may be mentioned pollens, and air-borne mold spores. Desensitization must be carried out for their control.

Desensitization, a term now widely used by clinicians, indicates, as it does in anaphylaxis, the method by which sensitization is either decreased or removed. Hyposensitization, a term introduced by Cooke, more nearly applies to this form of treatment in man, and implies a lessening of sensitization without any manifest effect on the antibodies.

Desensitization may be either specific or non-specific. In specific desensitization, therapy is directed toward a lessening of sensitivity to one or more specific allergens to which an individual may be clinically sensitive, such as pollens, dusts, air borne molds, orris root and others. The factors which influence the choice of allergens for desensitization therapy, are:

a. The patient's degree of sensitivity.
b. The patient's ability to completely eliminate or avoid the specific allergen or allergens.
c. The nature of the specific allergen.

Specific desensitization may be achieved in two ways: by injection, in which initially the tolerance of the patient is determined, and therapy carried on over a protracted period of time; and by oral administration.

In instituting treatment by injection, it is wise to begin with the lowest concentration of an allergen which gives a positive skin reaction. This may vary greatly. For example, the initial dose in a highly sensitive cottonseed case may be 0.1 cc of 1:1,000,000,000 or in a moderately sensitive case, 0.1 cc of 1:100,000. With house dust extracts the concentration of the initial 0.1 cc dose may vary from 1:1,000 to 1:10. The patient's degree of sensitivity is the yardstick by which his initial dose is measured.

Doses are increased gradually, the increments varying with the type of allergen, the amount of local reaction and the presence or absence of constitutional reactions. As a rule an increment of from 33% to 50% is safe in the weaker dilutions. In higher concentrations the increment is decreased.

There is no stipulated maximum dose. One aims at a top dose which may vary from 100 to 1,000 times the initial dose. Many patients do better on frequently repeated small doses, and still others on minute intradermal amounts. There is no set rule to follow either as to the amount to be given nor the method to be used. Experience gained in handling large numbers of patients plus careful attention to an individual patient's reactions, dictates which method to use in an individual case.

For oral desensitization, increasing quantities of the offending food are given by mouth either in its intact form or after certain modifications. In food allergies this method is to be preferred over the injection method. The injection method is seldom employed in food sensitivity except where the specific food acts both as an inhalant and ingestant allergen.

The dosage, interval and preparation to be used in oral desensitization vary with the degree of sensitivity of the patient and the particular food to which the patient reacts clinically. The same principles of desensitization apply in the oral method as they do in the other types, that is, the first dose is given in a dilution which fails to give a positive skin reaction, and subsequent doses are increased gradually, either slowly or rapidly according to the response of the patient. Oral desensitization is usually instituted only for foods which are of major importance in the diet, such as wheat, eggs and milk.

Oral desensitization by means of specific peptones and propeptans has been advocated by Urbach. The specific peptones produced by the peptic digestion of the various food items are given an hour before the patient is to ingest a meal which will contain the food to which he is sensitive and from which the specific peptone has been prepared. It is stated that after a short period of this therapy, patients are able to tolerate the offending food without production of symptoms. Further experience will be necessary to evaluate the efficacy of this method of therapy.

Non-specific desensitization is frequently used when it is not possible to ascertain by any known diagnostic means, including clinical tolerance and therapeutic trial tests, the specific excitants which precipitate symptoms. It is also of value in patients who fail to respond to specific desensitization. The method aims at altering, by non-specific means, the reactivity of the patient to specific allergens. The true nature of the mechanism involved is not clearly understood.

Numerous agents have been employed, notably bacterial vaccines, either stock or autogenous. Very satisfactory results were obtained in a group of chronic asthmatics, using an autogenous (facultative) anerobic vaccine. Such vaccines must be given with the greatest of caution. Among the other non-specific agents which have been used may be mentioned tuberculin, peptone, sterilized

milk, histamine, autohemotherapy, and more recently Hapamine (histamine azoprotein, Parke, Davis).

Symptomatic Treatment Including Drug Therapy

During the period of allergic survey, or while methods of avoidance or desensitization are being carried out, it is usually necessary to provide symptomatic relief for the patient. General measures to improve hygiene are of paramount importance. The removal of foci of infection, as diseased tonsils or teeth, are advisable only if it will better the general health of the allergic. It is to be remembered that surgery may aggravate existing allergic conditions or may precipitate an initial allergic response in the potentially sensitive patient. This is of such frequent occurrence in certain areas, that tonsillectomy in potentially allergic children is not advised during periods of heavy pollination.

Drugs for the relief of allergic symptoms have run the gamut of therapeutic agents. The drug *par excellence* in the control of any allergic manifestation is adrenalin. It is the old standby, and produces results in all but a few isolated cases. It may be given by injection or inhalation. It usually has a prompt effect and relief therefrom is more complete and prolonged, despite its fleeting character, than from any other drug. It should be given early in an attack and in adequate doses. Individual tolerance to the drug varies widely. Fatality from its use has never been recorded. It is without question the most valuable drug we have for the treatment of allergic episodes.

Ephedrine, both the natural and synthetic and its many preparations both for oral as well as local use are well known to all. It is of value in mild or moderate attacks, and frequently gives prompt relief if administered early. In cough mixtures it is ideal. However, many patients develop an ephedrine "fastness" from its prolonged continued use, which quickly disappears upon its withdrawal.

Other drugs which have been used are aminophyllin, caffeine, ergotamine tartrate, the atropine group or parasympathetic inhibitors, iodides, endocrines, the opium group and many others. Morphine should always be administered with caution. Although at times it is exceedingly valuable in severe asthmatic attacks when adrenalin even in massive doses fails, it should nevertheless be chosen with care, because of its depressant action on the respiratory center. A much better drug to break such an attack is ether, administered either as a rectal anesthetic or by the drop method. In cases of status asthmaticus, intravenous dextrose has given most brilliant results.

Recently several new antihistaminic drugs have become available. Like all drugs, they have their limitations. A resume of observations of several committees and groups established to study the effects of these medicaments is here presented. Both Benadryl and Pyribenzamine appear to be effective in the control of a large percentage of individuals with vasomotor rhinitis and urticaria, and in acute whealing due to drugs and biologicals. Like adrenalin, they are not curative, but used only for symptomatic relief until approved allergic management becomes effective. Experience in large series indicates that asthmatics are but poorly relieved. Their effects are not as prompt nor as lasting as with ephedrine. Benadryl sometimes has marked side effects, whereas pyribenzamine apparently produces but few untoward reactions.

Prophylaxis in Allergic Diseases

The ideal prophylactic approach is through the medium of eugenics, but this is not practical. Allergic individuals may be warned that the allergic predisposition is likely to be transmitted to a large percentage of their offspring. This, however, seldom acts as a deterring influence.

Attempts at the control of congenital acquisition of sensitiveness based on experimental data, have likewise been tried. Regulation of a mother's diet during pregnancy, controlling excessive ingestion of certain highly allergenic foods, has been discouraging.

Of distinct value are the measures instituted in the postnatal period for children of allergic parents. These children should be watched carefully for the first signs of allergic manifestations, and therapy instituted promptly. Frequent colds in children should be viewed as allergic in character. The institution of avoidance of inhalant factors in the home is of definite value as a prophylactic measure. The early recognition and treatment of hay fever and other inhalant sensitivities definitely minimizes the incidence of bronchial asthma in later life. The treatment, however, must be properly and adequately carried out to be of value as a prophylactic measure.

The problem of allergy will perhaps never be completely solved. Much has been accomplished since von Pirquet and Bela Schick coined the word *allergy*, four decades ago. Much can still be accomplished. It is only by diligent effort, keen observation and meticulous attention to the minutiae of management that lasting results can be obtained

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NOTE: References and bibliography will be included in the author's reprints.

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[EDITORIALS]

THE MOVEMENT FOR NATIONAL "HEALTH LEGISLATION" IS A COMMUNIST MOVEMENT!

Criticism of certain groups and factions—notably Communists, labor unions, and certain racial groups—has so often been based on reactionary emotional attitudes and prejudices, that it has acquired a bad name. It is often called "baiting"—an allusion to the senseless and cruel practice of teasing a chained animal, usually a bear, just to make it angry.

The recipients of such criticism have not been blind to the great advantages of this situation. They have, ever since it arose, screamed "baiting" at any and every criticism of their actions, whether it actually *was* baiting, or whether it was sound and significant criticism.

We are not concerned just now with criticism of Communism. But—whether *you*, and *you*, would enjoy living in a Communist-dominated country or not—you should at least know that *the advocates of compulsory sickness taxation on a national scale are being connected with Communists, and Communist "front" organizations, and Communist sympathizers, with increasing frequency.*

William Gerard Reidy, who began work for Senator Robert Murray two days before the Senate hearings on S.545 and S.1320 started, was an employe of the Farm Security Administration and later of the Federal Public Housing Authority, originally as a "Cooperative Specialist in Health Services." He gave as reference, in an application for a job, the name of Dr. Alexander Meikeljohn, who has been active in Communist-front organizations. As a "consultant" to the Committee on Medical Economics, which published two of the leading lobbying pamphlets for compulsory sickness taxation, he is a co-columnist with "Mike" Davis in writing a health column for *Survey Graphic.*

Dr. Ernst P. Boas, chairman of the Physicians' Forum, a local political organization of doctors who openly favor medical collectivism, was the first witness in favor of S.1320, the new compulsory sickness taxation bill sponsored by Wagner, Murray, Pepper and several lesser lights. He is a member of several Communist-front organizations. He has admitted engaging in lobbying (for the Wagner Murray Dingell bill) without registering for the purpose, as he is required by law to do.

Mr. Jacob Fisher, documented by the House Committee on un-American activities for almost uninterrupted association since 1939 with various Communist-front and fellow-traveller organizations, is a member of the staff of Mr. Isadore S. Falk of the Social Security Board. Mr. Falk tried to have Mr. Fisher sent to New Zealand to study compulsory sickness taxation there, on June 15. Fisher had previously prepared a statement on the New Zealand system, designed to show that the criticisms of it by the American Medical Association were in error. Statement first, study later: the sequence is an interesting one, reminiscent of the horse following the cart.

The Committee for the Nation's Health is the chief lobby for the nationalization of medicine, and its chief, Michael Davis, claims that it is merely a neutral "service" organization. Yet it co-operates with the International Workers'

Order, a leading Communist group. The Physicians' Forum, too, advertises through the International Workers' Order; and the Federal Security Agency, the Public Health Service and the Farm Security Administration have all supplied movies for distribution by the I.W.O.

House Report No. 786 of the 80th United States Congress, entitled *Investigation of the Participation of Federal Officials in the Formation and Operation of Health Workshops,* of the Third Intermediate Report of the Committee on Expenditures in the Executive Departments, submitted July 2, 1947 and signed by Representatives Forest A. Harness, James W. Wadsworth, Henry J. Lathan, Carter Manasco and J. Frank Wilson, concludes its six and a half pages with the following paragraph:

"Suffice it at this time for your committee to report its firm conclusion, on the basis of the evidence at hand, that American communism holds this program [for socialized medicine] **as a cardinal point in its objectives; and that, in some instances, known Communists and fellow-travellers within the Federal agencies are at work diligently with Federal funds in furtherance of the Moscow party line in this regard."**

It is obvious that, whether the movement for compulsory sickness taxation is a good thing or a bad thing, the Communists figure prominently in it. It is always a good idea to know who else is on your team. Who is on yours?

"IS THE PATIENT UNDER, DOCTOR?"

The American Society of Anesthesiologists resolved, at its meeting last June in Atlantic City, that it disapproved "of the training of persons other than doctors of medicine in the science and art of anesthesia, for the assumption of responsibility in the care of patients where it may be necessary to exercise medical judgment, and particularly . . . of the issuance of certificates for such training by its members." The Society also disapproved of departments of anesthesiology being directed by anyone but "doctors of medicine actively engaged in the practice of Anesthesiology." They recommended at the same time that all medical schools and hospitals establish a department of "Anesthesiology" under the direction of "a doctor of medicine actively engaged in the practice of Anesthesiology."

The phrase in the initial objection, "where it may be necessary to exercise medical judgment," is a somewhat vague one; its implications, if not its intent, seem unduly broad. Surely every anesthetist must be expected to "exercise medical judgment" during the administration of an anesthetic. Just as surely, the administration of the average anesthetic is not so complex a problem that competence in it can be achieved only by a doctor of medicine. Have the nurse anesthetists done so poor a job that they need to be replaced by M.D.'s? We doubt it. We trust that such was not the intent of the Society in promulgating this resolution. And we suggest that, if it was not their intent, the Society say so.

THE HAWAII MEDICAL JOURNAL BECOMES THE OFFICIAL PUBLICATION OF THE HOSPITAL ASSOCIATION OF HAWAII

With this first issue of its seventh annual volume, the HAWAII MEDICAL JOURNAL becomes the official organ of The Hospital Association of Hawaii. This is primarily an organization of Hawaii's hospitals—*all* of them, except, as this is written, the newly reorganized Ewa Hospital—, together with individuals either engaged, or interested, or specially qualified, in some field of hospital planning or administration.

It is expected that from time to time, if not in every issue, a separate section of the JOURNAL will be devoted to announcements or informational items or original papers, dealing with this vital phase of medical work. We are proud of the opportunity to represent, now, not only the Territory's physicians and the Territory's nurses, but also the Territory's hospitals.

INFANT IMPETIGO FROM NURSES' NOSES

A painstaking inquiry into the epidemiologic and bacteriologic aspects of what is known in America as staphylococcus impetigo or bullous impetigo or impetigo neonatorum, and in England as pemphigus neonatorum, is reported in the July 5 issue of the *British Medical Journal* by V. D. Allison and Betty C. Hobbs. It covers lesions of this disease and an associated staphylococcal conjunctivitis affecting 132 infants in a large maternity hospital in Cardiff, over a two year period.

Their conclusion was that the most important source of infection was the nasal secretions of nurses who were carriers of the causative organism. The mode of transmission appeared to be via contaminated hands for the most part. Their report should be read in detail by those charged with the responsibility of administering hospital nurseries, for they outline several preventive measures in great detail.

GONORRHEA—IS IT COMPLICATED BY SYPHILIS?

A word of caution regarding the treatment of gonorrhea with penicillin seems in order at this time. It is well known that a person who is infected with both gonorrhea and syphilis at the same time will usually show evidence of gonorrhea several days before the lesions of syphilis appear. If the person who contracted both diseases at the same time is treated with penicillin for the gonorrhea as soon as it appears, the course of the syphilis will be altered so that the lesions will be slow in appearing or may not appear at all, but the person will eventually develop a positive blood test for syphilis. The lesions of syphilis may not appear for as long as six months after exposure. Of course, the patient who has lesions suggestive of syphilis as well as positive evidence of gonorrhea should have repeated darkfield examinations of the lesions as well as serologic tests before the gonorrhea is treated with penicillin. The alteration of the course of the syphilis is due to the dosage of penicillin which is used for the treatment of gonorrhea being inadequate for the treatment of syphilis.

Recently a prostitute was arrested in Honolulu who had both gonorrhea and primary syphilis. This woman catered to Filipino men more than to any other group. It is strongly urged that all doctors who see Filipino men with gonorrhea check them closely for evidence of syphilis over a period of six months if possible. Especially is this indicated since these men will be treated with penicillin for the gonorrhea in almost all cases.

WALTER B. QUISENBERRY, M.D.

HOSPITAL-OPERATED OUT-PATIENT CLINICS

The Queen's Hospital on August 4, and the St. Francis Hospital officially on August 18, began the operation of out-patient clinics. The move was made with the dual purpose of providing better and less expensive out-patient care than had been possible at Palama Settlement's medical department, ably run these many years by Dr. Joseph Lam, and also of conforming to the educational standards set by the American College of Surgeons for Class A hospitals.

Now that the hospitals have the ball, it is up to them to keep it moving in the right direction. Palama did a good job for a long time, and established a record of satisfying public service that will not be easy to equal. The new out-patient clinics have a lot in their favor, but it will take plenty of work to get them running in a manner that will equal Palama in regard to public satisfaction. And that, in the long run, is what will determine their success.

Hawaii Medical Service Association

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POST-GRADUATE LECTURES

III. THE HEMORRHAGIC DISORDERS*

CYRUS C. STURGIS, M.D.

The presence of bleeding into the skin and mucous membranes, the failure of the blood to clot normally, and excessive loss of blood from minor wounds, frequently portend an ominous outlook. On the other hand, such conditions have many and diverse causes, and although some are of a serious nature, others are of relatively minor consequence. An abnormal hemorrhagic tendency is characterized by bleeding into the skin, mucous membranes, muscles, from the oral nasal cavities, from the kidneys, bowels and uterus, or into the brain. In fact, hemorrhage may occur into almost any tissue of the body, either following slight trauma or arising spontaneously.

There are three well recognized mechanisms whereby an abnormal tendency to bleed may develop. Their importance, in order of frequency of occurrence, may be stated as follows: (1) increased permeability of the capillaries (non-thrombopenic purpura), 66 per cent; (2) diminution in the number of blood platelets (thrombopenic purpura), 22 per cent; (3) defects in the constituents of the normal clotting mechanism, 7 per cent; (4) unclassified, 5 per cent.

Bleeding Due to Increased Permeability of the Capillaries

This is the most common type of abnormal bleeding which is assumed to be due to increased capillary permeability. Evidence favoring this is that the tourniquet test is usually positive, the blood platelets are normal in number, there is no abnormal variation in the amount of prothrombin present or other abnormalities of the clotting mechanism. The bleeding time and clotting time are normal. The diagnosis of this type of purpura is usually made on the presence of a positive tourniquet test, and the absence of any other abnormality of the blood. It may be associated with different causes, as follows:

1. It is the characteristic rash of a number of infectious diseases as epidemic meningococcus meningitis, typhus fever, and others; and abnormal bleeding on this basis accounts for the hemorrhagic type of various infections. Examples of this are hemorrhagic smallpox or measles.

2. It is observed in acute or more commonly chronic glomerular nephritis, usually in association with the uremic state. The explanation usually given is that it is due to "toxins."

3. Allergic purpura associated with increased capillary permeability is undoubtedly a clinical entity but it must be admitted that our knowledge concerning this is incomplete. It is observed in patients who are sensitive to certain drugs (potassium iodide, phenobarbital, and belladonna), and probably to various articles of diet. [It is usual for the tourniquet test to be negative in this form of purpura.—ED.]

4. The most important type of purpura due to increased capillary permeability is that resulting from a deficiency of vitamin C, or scurvy. This rarely occurs in civilized countries under normal conditions of living. I have seen it, however, in patients with peptic ulcer, who have been partaking of a diet, usually of their own devising, from which vitamin C had inadvertently been excluded.

5. Hereditary hemorrhagic telangiectasia. In this condition, which is definitely hereditary, there is apparently an imperfection of the capillary wall which permits undue bleeding following slight trauma. In most patients, as the result of the loss of blood, usually from the gastro-intestinal tract or from repeated epistaxis, there is a definite and sometimes a profound iron deficiency anemia. Although not uncommon, it is often overlooked. Recognition of the condition is easy. If one encounters a patient, usually in young adult or middle life, who has an iron deficiency anemia without apparent cause, this disorder should be considered. The diagnosis can often be made at a glance because the small telangiectatic lesions, often bright red in color, are almost always present on the lips and the palmar surfaces of the tips of the fingers.

From the standpoint of therapy, some of the abnormal types of bleeding due to increased capillary permeability are relatively unimportant. Often these manifestations are the least significant part of the clinical picture, as they are secondary to the more important primary disease toward which therapy must be directed. Usually with the control of the main disease from which the patient is suffering, the hemorrhagic disorder will frequently be curtailed.

Thrombopenic Purpura

When one observes a patient with purpura and bleeding from the mucous membranes, at once the question should be asked, is this condition due to a diminution in the blood platelets (thrombopenic purpura) or are the platelets in the circulating blood present in normal numbers (non-thrombopenic purpura)? If the number of platelets is diminished, then it should be determined if this has occurred secondarily to a recognizable cause, or if there is no apparent reason. On this basis all thrombopenic purpuras can be divided into the *secondary* and *idiopathic* types.

Changes in the Blood in Thrombopenic Purpura

Regardless of the type of purpura, there are certain characteristic changes in the blood which are common to both conditions. These are: (1) a diminution in the number of circulating platelets; (2) a prolongation of the bleeding time; (3) a normal coagulation time; and (4) the inability of the blood to form a normal retractile clot which will express serum. In addition, the tourniquet test is almost always positive.

* From the Department of Internal Medicine, University of Michigan. Transcript of a Lecture given before the Honolulu County Medical Society on May 9th, 1947.

Reports of the series of 7 lectures available at cost: 25c each or $1.00 for the entire series. Address requests to Honolulu County Medical Society.

The blood platelets are reduced in all instances when active bleeding is present, to less than 100,000 per cubic millimeter, and usually much below this. In some such patients it is not even possible to find a single platelet in the circulating blood after prolonged search. In general the severity of the tendency to bleed is correlated with the extent of the reduction in the number of blood platelets, but this is not strictly true. For example, I have observed patients with almost a complete absence of blood platelets who have had only slight evidence of a bleeding tendency, whereas those with over 100,000 per cubic millimeter sometimes bleed profusely.

The bleeding time, which is characteristically between 3 and 4 minutes normally, is usually prolonged longer than 10 minutes and may in some instances be extended for hours. The coagulation time is almost always normal unless there is a striking prolongation in the bleeding time, when it too may be somewhat increased. It is characteristic, however, for the clot, when formed, to be soft, friable and non-retractile instead of normal.

Secondary Thrombopenic Purpura

It is important to differentiate between idiopathic and secondary thrombopenic purpura, largely because *splenectomy* is the treatment indicated in the idiopathic type, whereas it should *never be done in patients with the secondary variety.* This is because in some instances, depending on the primary cause of the condition, the patient will recover without this major operation and, in others, when it is secondary to a major disease such as leukemia, it would be valueless and hence the patient would be subjected to a procedure which could not possibly be helpful.

The main diagnostic point in recognizing secondary thrombopenic purpura is the discovery of some cause for it. It is usually secondary to one etiologic factor of four main groups, as follows: (1) certain blood diseases, as leukemia, pernicious anemia and aplastic anemia; (2) invasion of the bone marrow with metastases from primary growths as carcinoma of the stomach, the breast, or hypernephroma; (3) various types of infection including any of the acute infectious diseases of childhood, typhus fever, smallpox, and rarely infectious mononucleosis; or (4) allergy due to various articles of diet or drugs (organic arsenicals, Sedormid, gold, the sulfonamides, quinine, and possibly others).

When the patient is observed with unquestionable evidence of thrombopenic purpura each one of the causes in these four divisions should be carefully investigated. They must all be eliminated before the diagnosis of the idiopathic type is given consideration.

The treatment and prognosis of the secondary type, of course, depend on the primary cause of the condition. In leukemia and aplastic anemia, the outlook is the same when purpura is present as without it, with the exception that a bleeding tendency usually forecasts that a fatal termination is not far distant. This is true also when the disorder is associated with metastatic lesions to the bone marrow. In the presence of thrombopenic purpura due to pernicious anemia, to many infections or to allergy, the prognosis is favorable if the primary condition can be controlled. The treatment, naturally, is concerned mainly with the primary disease. There is only one worthwhile therapeutic measure which can be directed toward the control of the purpuric condition per se and this is repeated transfusions of fresh (not bank) blood. While this procedure is of some value, it often falls short of the anticipated hope of what it might accomplish.

Idiopathic Thrombopenic Purpura

Although this disorder does not occur commonly, it is important that every physician should be acquainted with its characteristics. This is because it is one of the few conditions in which splenectomy is effective, in a malady which otherwise might terminate fatally. It may be defined as a disease of unknown etiology, most commonly occurring in children and young adults, characterized by spontaneous bleeding from the mucous membranes and into various tissues, a diminution of circulating blood platelets, a prolongation of the bleeding time, a normal coagulation time, an inability of the blood to form a retractile clot, and a positive tourniquet test.

It is essentially a disease of younger persons, as almost 90 per cent of the cases develop within the first 24 years of life and in only 10 per cent does the condition appear initially after the age of 40 years. A diagnosis, therefore, of idiopathic thrombocytopenic purpura in a person who is over 40 years of age should be scrutinized carefully, for at that age the secondary variety occurs more commonly. The condition predominates in the female sex, in a proportion of either 2 to 1, or 4 to 3, the estimates varying. This sex distribution is unfortunate because the excessive tendency to bleed is more hazardous in the female than the male due to the resultant menorrhagia and metrorrhagia.

The etiology of idiopathic thrombocytopenic purpura is unknown. All agree that the immediate cause of the bleeding is in some obscure manner related to the reduction of the blood platelets, but there is no satisfactory explanation of just how this thrombopenia acts. Furthermore, the cause of the thrombopenia is not clear. The two main views concerning this are as follows: (1) that the platelets are destroyed in excessive numbers by the spleen, and (2) that in some way the spleen forms a hypothetical substance which effects a maturation arrest or a slowed development of the platelets from the megakaryocytes in the bone marrow.[5] Regardless of which theory is favored, there is a general agreement that splenectomy in all instances exerts a beneficial and in most cases a curative effect on the condition.

The symptoms and signs are all related to the abnormal tendency to bleed. They consist of the appearance of purpuric spots in the skin and bleeding from the mucous membranes without preliminary symptoms. The abnormal tendency to bleed from the mucous membranes varies in severity from a slight oozing to hemorrhages so extensive as to cause a pronounced hypochromic anemia. The most frequent site is from the nose and mouth but it may also arise from the gastro-intestinal tract with hematemesis and tarry stools, the urinary tract with hematuria, from the uterus, or into the various organs of the body including the brain which may be the immediate cause of death. Profuse and prolonged uterine bleeding which gives rise to a serious hypochromic anemia may be the sole evidence of the disease for a considerable period of time. Gross splenomegaly is rarely present and should arouse the suspicion that the patient has a secondary type of thrombopenic purpura in association with some blood dyscrasia, such as leukemia. Occasionally the edge of the spleen may be palpable in patients with the idiopathic type.

The blood changes in patients with this disorder are characteristic. As previously stated, the bleeding time is prolonged, the clotting time is normal, but the clot does not retract, the platelets are reduced or in some instances are almost absent, and the tourniquet test is

positive. The only other change in the blood is the presence in some of the patients of a hypochromic microcytic anemia which is accounted for by the excessive loss of blood. The leukocyte count is within normal limits. In some instances, where there are widespread cutaneous hemorrhages, an eosinophilia varying from 4 to 40 per cent may be present.

The Treatment and Prognosis

The course of this disorder is unpredictable. The patient may have one attack and recover, never to experience such symptoms again, or there may be recurrences. The latter course is the one which occurs in about 75 per cent of all patients after the first episode of bleeding.

The two procedures which are most likely to be of therapeutic value are blood transfusions and splenectomy. Blood transfusions, in my opinion, are useful as they may tide the patient over until a spontaneous remission occurs. If splenectomy is not done, it is likely that the condition will become chronic and the patient suffer from varying degrees of incapacitation. The mortality from the operation is low, the possibility of complete control of the bleeding and restoration to health is great, and the likelihood of a recurrence in patients who do not have a splenectomy is considerable.

When the operation has failed, it has been discovered occasionally that this was due to the presence of accessory spleens which were not noted at the time of the operation. In my opinion, therefore, *in the presence of a well established diagnosis,* and after preliminary preparation with blood transfusions, all patients with this disease should have the spleen removed by a competent surgeon who should use great care in detecting and removing any accessory spleens which may be present.

Hemorrhagic States Due to Changes in the Normal Clotting Components of the Blood

To understand the tendency to bleed which arises from an abnormality of the components of the blood clotting system, it is essential to have a clear idea of the normal coagulation process. Although there are important gaps in our knowledge and some differences of opinion concerning the nature of this process, nevertheless, sufficient is known to construct a working hypothesis which is useful in understanding some of the hemorrhagic disorders which are encountered in clinical medicine. A majority of investigators favor the two stage blood coagulation theory first proposed by Morawitz in 1904. This may be stated as follows:

Stage 1.
Prothrombin + thromboplastin + calcium → thrombin
Stage 2.
Thrombin + fibrinogen → fibrin

In this theory there are four primary substances (prothrombin, thromboplastin, calcium and fibrinogen) which participate in the reaction. The other two (thrombin and fibrin) result from the interaction of the four. This theory considers that prothrombin unites with thromboplastin to form thrombin. Apparently this reaction can only occur in the presence of calcium. Thrombin, thus formed, unites with fibrinogen to form fibrin which is the basis of the blood clot.

Thromboplastin and Hemophilia

From the standpoint of clinical medicine, in the light of our present knowledge, there are only two of these substances which need be discussed, namely, thromboplastin and prothrombin. Thromboplastin is derived from the tissues and the blood platelets. By some it is thought to be an enzyme and is called thrombokinase. In any event, it is considered to be the "trigger mechanism" which initiates the clotting process. It is the opinion of William H. Howell and others that thromboplastin is supplied normally to the blood plasma by the disintegration of the blood platelets, and that the abnormality in patients with hemophilia is the delayed rate at which the platelets release the thromboplastin for the purpose of accelerating the clotting process. The diagnosis of hemophilia usually offers no difficulties. It is impossible to improve the terse definition of the disease by Osler that it is "the inherited tendency of males to bleed." In this condition the bleeding time is usually normal, but the coagulation time is increased, always over 10 minutes, and sometimes it is prolonged to 18 or 22 hours. The clot, when it forms, is normal.

It should be kept in mind that any child born with hemophilia is suffering from a most serious handicap because of two main reasons: (1) about three-fourths of the patients succumb before the age of 30 years, and (2) after the age of 20 years practically every patient with the disease is seriously crippled with joint deformities due to hemarthrosis.

The treatment of this disease is not entirely satisfactory. There is no better method of controlling the bleeding than the use of blood transfusions. Even with such a therapeutic agent, however, if the patient is in the state where the coagulation is delayed over 12 hours, it is difficult to curb completely the abnormal hemorrhage. Certainly patients and their families should be warned of its hereditary nature and the danger of transmitting the condition to the offspring of affected persons. It is only safe for the unaffected males to have children, as they will remain free from the disease. The condition is transmitted solely by females, but there is no method of determining if such a member of a family is a carrier of the condition and capable of transmitting it to her male offspring.

Despite the large amount of effort to isolate purified products from the blood serum and body tissues, there is no treatment superior to transfusion of whole blood or plasma for the temporary control of the disorder.

Vitamin K and Hypoprothrombinemia

The discovery by Henrick Dam in 1934 of vitamin K and its relationship to the coagulation of blood, along with the later investigations which proved its participation in the formation of prothrombin, constituted a major advance in our knowledge of blood clotting mechanism and of the hemorrhagic diseases. The important role of vitamin K in the etiology of hemorrhagic disease of the newborn, and the abnormal bleeding in association with jaundice entitles it to a detailed consideration.

In order to understand the most important points about the physiology of vitamin K, a brief review of our knowledge concerning its source, absorption, and relation to prothrombin is essential. Vitamin K is fat soluble naphthaquinone. It occurs abundantly in certain vegetables such as spinach, cauliflower, cabbage, kale and others. After being ingested in the diet, absorbed from the intestines, and transported to the liver, it is apparently converted to prothrombin and as such participates in the normal coagulation process. Any deficiency in the intake, absorption, or ability of the liver to convert vitamin K to prothrombin, causes a deficiency

in the circulating blood. This can be demonstrated by estimating the prothrombin time for which the method of Quick (*Am. J. Med. Sc.* 190:501, 1935) is the most practical. The clotting time by this method usually requires between 10 and 25 seconds. The test is done simultaneously on the blood of a normal person as well as on the unknown sample and the result expressed in per cent of normal. Abnormal bleeding does not occur until the prothrombin is reduced to 10 or 15 per cent of normal. The prothrombin estimation, while not difficult, should be performed by a laboratory worker who is accustomed to the various aspects of the technic. It is not ordinarily suitable to do such a test in isolated instances in a physician's office.

A hypoprothrombinemia may occur as the result of (1) failure to absorb vitamin K from the intestine; (2) liver disease when the vitamin apparently cannot be converted to prothrombin due to failure of hepatic function; (3) a deficient dietary intake; (4) unknown causes (the idiopathic type); and (5) dicumarol and heparin administration.

Hypoprothrombinemia Resulting From Failure of Absorption

This may arise from two mechanisms: the presence of (1) a common duct stone or a biliary fistula, or (2) impaired absorption from rapid passage through the intestines or from an abnormality of the bowel wall which interferes with its normal function. If bile does not reach the intestines in normal amounts, fat is not digested normally and vitamin K, being fat-soluble, is lost in the stools. This accounts for the hypoprothrombinemia in patients who are jaundiced as a result of the common duct obstruction, and the excessive bleeding which is associated with this condition.

The most effective method of treating such a condition is to administer the water-soluble forms of vitamin K intravenously, either as menadione bisulfite in doses of 1 to 3 milligrams daily, or Synkamin in doses of 2 to 5 milligrams daily. Patients with jaundice should never be operated upon until the bleeding time is within normal limits and the prothrombin level is at least 70 per cent of normal. Apparently there is no harm in giving excessive doses of vitamin K occasionally because in treating the dangerously low prothrombin level sometimes induced by the administration of dicumarol to patients with coronary thrombosis, as much as 72 milligrams of menadione bisulfite (U.S.P.) has been given at one dose without undesirable effects.

There may be a clinically significant hypoprothrombinemia in such conditions as sprue and chronic ulcerative colitis, or in patients in whom a short-circuiting operation has been done on the intestinal tract. In such patients vitamin K is not absorbed because of the rapid passage through the intestines or impaired absorption for unknown reasons, possibly associated with alterations in the intestinal walls.

Hemorrhagic Disease of the Newborn

This condition may be defined as a specific disease entity due to hypoprothrombinemia, which usually manifests itself clinically in the first week of life in the form of spontaneous hemorrhages. Although bleeding may be present in any tissue of the body, it is most commonly observed in the skin and subcutaneous tissues, the umbilical stump, and the intestines. The disorder is controlled promptly by means of vitamin K therapy. It should be kept in mind that not all hemorrhagic disorders occurring in the newborn are due to a hypoprothrombinemia. Consequently they should not all be considered as examples of hemorrhagic disease of the newborn. Bleeding in the first few days following delivery may be due to a number of other causes, as thrombopenic purpura, deficient fibrinogen, increased capillary permeability as a manifestation of allergic phenomena, infection, toxemia, and finally to a vascular accident incident to the birth process. In recent years it has been found that about one-half of the newborn have a low capillary resistance which might also be the basis for an increased tendency to bleed.

The present day view is to define hemorrhagic disease of the newborn as a condition due solely to a prothrombin deficiency. This occurs in less than 0.5 per cent of all infants within the first 10 days of life, and usually within the first week. The onset of the bleeding is with a slow oozing most frequently from the stump of the umbilical cord or in the skin which usually results in large ecchymotic areas. Internal bleeding most commonly arises in the intestines which causes bloody stools; or the bleeding may be from the stomach, the urinary tract or the vagina. Intracranial bleeding, which most frequently occurs within 4 to 5 days after birth, is the most serious aspect of the disease. It may lead to death, or to permanent injury of the nervous system.

The present view concerning the cause of this condition, which may be accepted tentatively, is as follows: The newborn infant who develops the disorder lacks a sufficient reserve of vitamin K to restore the prothrombin which is lost in the first few days of extrauterine life. Normally this depleted store is amply restored by the reserves with which the infant is supplied. The prophylactic treatment is, therefore, to administer vitamin K to the mother. This insures an adequate supply of vitamin K in the infant to provide for the first few days of life when these reserves are heavily drawn upon. To accomplish this, 2 milligrams of menadione orally should be given to the mother each day for two weeks before labor occurs. Or the infant may be given 2 milligrams of menadione in oil intramuscularly at birth, or a similar amount of the water soluble product, Synkamin.

The Relation of Liver Injury to Hypoprothrombinemia

There is clear cut evidence to indicate that the liver is responsible for the utilization of vitamin K in the synthesis of prothrombin. While the function of this organ may be damaged by many diseases, it is the injury associated with prolonged obstruction to the common duct, to atrophic cirrhosis, and in toxic hepatitis that is of the greatest importance from this standpoint. The relation of the liver to hypoprothrombinemia is of clinical significance for several reasons, as follows: (1) it may account for excessive bleeding in patients with liver disease; (2) it should be kept in mind that the only treatment of value is the transfusion of blood, (the administration of vitamin K under these circumstances has no effect because the defect is in the inability of the liver to convert vitamin K to prothrombin); (3) the failure of the inefficient liver to change vitamin K to prothrombin has been utilized as a functional test of promise. If, for example, a hypoprothrombinemia were present and there was no increase in the amount present following the intravenous injection of vitamin K, this would be acceptable evidence of considerable liver damage.

Hypoprothrombinemia Due to Dietary Defects

Vitamin K deficiency rarely occurs in animals even after it is completely eliminated from the diet for long periods of time. This may be because animals have a great reserve supply or because the bacteria of the intestinal tract may synthesize it. In man it is unlikely that there should be a deficiency of this vitamin because of its widespread distribution in the diet of individuals of this country. It must be concluded, therefore, that a significant decrease in the prothrombin of the circulating blood is unlikely to be caused by a dietary restriction. On the other hand, it is acknowledged that in pregnant women it is possible that a vitamin K deficiency occurs to such an extent that the fetus is deprived of its reserves. This is thought to account for the condition known as hemorrhagic disease of the newborn, previously discussed. Furthermore, in certain conditions such as pellagra, a deficient diet may produce a diarrhea which in turn is responsible for impaired absorption of vitamin K and a resultant hypoprothrombinemia.

Idiopathic Hypoprothrombinemia

In 1941 Rhoades and Fitz Hugh reported (*Am. J. Med. Sci.* 202:662, 1941) the case of a youth, age 18 years, in whom hypoprothrombinemia existed for no known cause. Although the patient had been regarded as having hemophilia for the past 10 years, there was no family history of this disorder and when Quick's method of doing the prothrombin time was introduced, it was found to vary between 70 and 90 seconds. Oral and parenteral vitamin K therapy was ineffective. Death resulted from a subdural hematoma and hemorrhage into the left basal ganglion. Although the cases of this condition which have been observed were in males, it is likely that eventually a similar condition in a female will be reported and incorrectly regarded as hemophilia. The only form of therapy which is even of transient value in idiopathic hypoprothrombinemia is repeated blood transfusions. It is possible that future trials of large doses of vitamin K may be helpful.

Heparin and Dicumarol

Heparin, first isolated from liver by William H. Howell in 1918, is an effective anticoagulant but it is of little value in clinical medicine. It is used in the treatment of thrombophlebitis and coronary thrombosis to diminish rapidly the coagulating property of the blood in the hope that emboli will not form or myocardial infarction will not progress. Its action is more rapid than dicumarol, as an effect is apparent in a few hours, whereas the maximum is not attained following dicumarol for a period of 18 to 30 hours. According to Howell, heparin prolongs coagulation by preventing prothrombin from interacting with the platelets and calcium to form thrombin.

Dicumarol, 3,3'-methylene-bis (4-hydroxycoumarin), first isolated from spoiled sweet clover, when given to man in doses of 300 milligrams daily will prolong the prothrombin and the coagulation time. Apparently it acts in some unknown manner by reducing the prothrombin content of the circulating blood. Although there has been some difference of opinion concerning this, it is now generally accepted that large doses of vitamin K in the form of menadione bisulfite (72 milligrams intravenously) will counteract the effect of dicumarol, but this is not apparent for 2 hours with a maximum effect in 18 to 30 hours. If an immediate neutralizing effect of this drug is desired it would be wise to administer the medication in the dosage stated and in addition give a blood transfusion which would supply prothrombin for immediate use.

The exact place of heparin and dicumarol in the prevention of post-operative emboli, and in the treatment of thrombophlebitis and myocardial infarction, is as yet undetermined. Further development and more experience may result in the acceptance of such methods of treatment as having sufficient value to warrant their more widespread use. *The intravenous use of either heparin or oral dicumarol should not be undertaken unless ample facilities are available for the daily determination of the prothrombin time.* An attempt should be made to keep the prothrombin level in the vicinity of 30 per cent of normal.

IV. BLOOD TRANSFUSIONS

It is not my intention to review the entire subject of blood transfusions, but only to mention some special points concerning them which should be of practical interest to practitioners. In the first place, it should be admitted that unless an unlimited, carefully tested supply of citrated blood is available to every patient when needed, the community is not offering to the public one of the most important and life saving therapeutic measures available to our profession. In order to fulfill such an obligation, it is essential that a well organized "blood bank" be established and that the willing cooperation of all physicians be secured in maintaining its blood supply by the solicitation of donors. The blood bank with its comprehensive program as established in Honolulu is one of the most progressive and efficient ones with which I am acquainted.

The Indications for Blood Transfusions

It is now recognized that blood transfusions are indicated in a wide variety of conditions, some of the more important being as follows:

1. In conditions associated with an *anemia in which there is no other effective treatment* available. Such anemias are present in association with cancer, leukemia, aplastic anemia, lymphoblastoma, and various other disorders. In such conditions it is recognized that the patient may survive for a considerable period. Transfusions are not administered, however, primarily with the idea of prolonging life, but in order to make the patient more comfortable. In these diseases I believe that the hemoglobin of the circulating blood should be maintained in the vicinity of 70 per cent, for at this level few, if any, symptoms of anemia are experienced. In chronic nephritis associated with an anemia, Cooley's anemia, and sickle cell anemia, it is possible not only to make the patient more comfortable but also to prolong life for a long period of time by repeated blood transfusions.

2. In *acute hemorrhage.* It has been demonstrated that whole blood is superior to blood plasma in the treatment of acute hemorrhage. This is because not only does it supply in toto what is lost but also it is of assistance in the restoration of the hemoglobin to a normal level. By utilizing the blood bank it is possible to provide an almost unlimited supply of blood to patients with hemorrhage. During the acute stage of bleeding an attempt should be made to maintain the systolic blood pressure at a minimum of 100 mm. of mercury by this means.

3. To *sustain life* until a diagnosis can be made and special therapy instituted. Often patients are admitted to the hospital in extremis suffering from a severe anemia of obscure nature. Under these circumstances, one or more blood transfusions should be given without delay to insure the immediate safety of the patient until the proper diagnostic procedures can be performed and the necessary treatment given. Also it should be kept in mind that a patient may succumb from an anemia, such as pernicious anemia, before sufficient time has elapsed to respond to potent anti-pernicious anemia medication. It is our custom, at the Simpson Memorial Institute, to determine the blood type and make all arrangements for an emergency blood transfusion in all such patients in whom the blood contains less than 1.5 million red blood cells per cubic millimeter, or who for any other reason appear to be in imminent danger.

4. In the *treatment of shock with associated hemorrhage*, it is desirable in all instances to restore the blood volume to normal with whole blood at the earliest possible moment. It should be kept in mind that in severe shock the blood volume may be reduced to 66 per cent of normal or less. If the blood volume is 6 liters, this would mean that it is diminished 2 liters, and hence an equivalent amount of blood should be given if the optimum treatment is carried out. Too often in the past an inadequate amount has been injected. The treatment of shock in which there has been *no* loss of blood, is with *plasma*. In such cases there is a loss of fluid from the vascular system, and a resultant concentration of the hemoglobin and red blood cells, with a reduction in the blood volume. In such a condition there has been no loss of hemoglobin and red blood cells from the vascular system.

5. As a means of *expediting the return of the blood to normal* in a patient with anemia. Consideration should be given to this indication more frequently. If a patient loses a sufficient quantity of blood, from such a condition as a bleeding peptic ulcer, to cause a reduction in the hemoglobin of 50 per cent, and it is known that the bleeding is controlled, the hemoglobin will regenerate at the rate of approximately 1 per cent a day. Hence a period of about 30 days would be required to reach normal. Experience has shown that a blood transfusion of 500 cc. in an adult of average size will increase the hemoglobin about 10 per cent. If three such transfusions were given in the course of a few days to a week, the blood of the patient would be restored promptly to normal. Some have argued that the use of blood transfusions under these circumstances will deprive the bone marrow of a powerful stimulus to hematopoiesis, but it is my belief that even if the blood is brought to normal promptly, a sufficient stimulus will remain to maintain it there.

6. The use of blood transfusions as a *pre-operative measure*. Unless an anemic patient has a condition demanding an immediate emergency operation, I do not see why even minor surgical procedures should be performed in the presence of an anemia. No reasons need be recounted for this other than to say that every surgical operation entails some risk and if an anemia is present it is increased. By means of blood transfusion, the hazard is lessened and, furthermore, convalescence is shortened.

7. *Prior to extensive roentgen ray exposures*. It is not emphasized sufficiently that the roentgen ray when used therapeutically in such conditions as leukemia and the lymphoblastomas not only exerts a beneficial effect, but also often depresses temporarily the red blood cell count in the peripheral blood. This effect is not commonly observed because it does not reach its maximum until a period of about 6 weeks after the exposures. The point in emphasizing this is to recommend that all patients who are to receive extensive roentgen ray therapy, and in whom there is an anemia, should have a sufficient number of blood transfusions, prior to roentgen therapy, to raise the hemoglobin to approximately normal.

8. The use of blood transfusions in *infections with anemia*. In my opinion, if a patient has a serious infection and an anemia, repeated blood transfusions should most certainly be given until the blood is restored to normal. In the presence of a normal hemoglobin and red blood cell count, the evidence is not sufficiently convincing to me to recommend this form of therapy. There is some evidence, however, that certain specific and non-specific antibacterial and antitoxic substances may be transferred by transfusions of fresh blood or plasma and hence from a theoretical standpoint they should be of value in the treatment of infections and infectious disease. Convalescent serums have been of assistance in controlling such infections as scarlet fever, measles, mumps and those due to the pneumococcus. It has not been established that the injection of leukocytes contained in transfused blood is of value in combatting infections, but the possibility that they may function in this respect cannot be dismissed completely. Although it is known that the immune globulin is quite stable, it is also recognized that complement, leukocytes, and possibly other important antibacterial substances rapidly degenerate in stored or "bank" blood.

The Control of Bleeding in Patients with Hemophilia, Thrombopenic Purpura, and Hypoprothrombinemia

The clotting defect in patients with *hemophilia* is due to a deficiency of thromboplastin which is derived from the blood platelets and tissue juices. Bleeding in patients with this disease is controlled by the injection of citrated blood or plasma. All of us have experienced considerable difficulty in managing the excessive bleeding in such patients following the extraction of teeth or with other minor surgical procedures, even when repeated blood transfusions are given for this purpose. In such patients this usually occurs when they have an unduly long coagulation time, in some instances over 12 to 18 hours. If such elective procedures are done when there is a spontaneous shortening of the coagulation time, the condition will be much easier to control.

Patients who are suffering from excessive hemorrhages in association with *thrombopenic purpura*, either of the idiopathic or secondary types, should be treated with repeated blood transfusions. Fresh, not bank blood should be employed because the blood platelets agglutinate within a few hours after removal from the body and hence are probably functionally inefficient. In patients with this condition who have a pronounced deficiency of the blood platelets, it is not always possible to control the bleeding by multiple blood transfusions even when these are administered repeatedly at short intervals. It is the *only* form of therapy, however, which is of value under these circumstances and hence should be used freely.

Blood transfusions are of value also in furnishing prothrombin to patients who are bleeding as a result of *hypoprothrombinemia*. This is especially true when the condition results from liver impairment, in which vitamin K therapy is ineffective. In such patients, the

only available source of prothrombin is that which can be injected in the transfused blood.

The Use of Blood Transfusions in the Treatment of Hypoproteinemia

A reduction in the blood proteins and especially the albumin fraction may result from a low protein intake; an excessive loss of albumin following repeated abdominal paracenteses, as in cirrhosis of the liver; in chronic ulcerative colitis; in renal disease as the result of a pronounced albuminuria; in the failure of albumin synthesis in widespread liver disease; in excessive utilization of albumin in any prolonged febrile illness; and in repeated and extensive hemorrhages. When a low plasma protein is present, often the patient has edema resulting from altered osmotic pressure relations. Blood transfusions in the absence of an anemia are not advisable in the restoration of the plasma proteins but it is possible to utilize intravenous injections of either plasma or plasma proteins for this purpose. In my experience, however, such replacement therapy has not been satisfactory. This may be for two reasons: (1) There is difficulty in restoring plasma albumin to a normal concentration in the circulating blood; (2) If plasma or concentrated albumin solutions are employed, a large amount of sodium chloride is also injected and the sodium ion is active in the retention of water. This augments rather than controls the edema.

Untoward Reactions From Blood Transfusions

In the thirty-three years that citrated blood has been used for transfusions, it has been clearly established that unmodified blood or complicated apparatus for the direct transfusion of blood is unnecessary.* Furthermore, with the proper typing, including the determination of the Rh groups, it is now possible to give transfusions with the maximum of safety. Following a certain small percentage of blood transfusions, however, there are various types of untoward reactions which may occur despite all reasonable precautions. In the average hospital employing bank blood such reactions are present following about 4.5 per cent of all blood transfusions. The nature of these may be classified as follows:

I. Those due to hemolysis of blood.
   (a) The accidental use of incompatible main groups (O, A, B, AB).
   (b) The transfusion of blood with incompatible subgroups.
   (c) The Rh factor.
   (d) The use of group "O" as a universal donor.
   (e) The use of blood which has been stored too long (over 7 days).
   (f) The transfusion of blood in patients with hemolytic anemia.

II. Reactions due to non-specific factors.
   (a) Toxicity of the citrate.
   (b) Unclean apparatus or contaminated solutions.
   (c) Allergic manifestations.
   (d) Speed reactions.
   (e) Embolic phenomena.

If one includes all types of minor reactions, even asymptomatic febrile rises to over 99.6 degrees (F), the total number does not exceed 4.5 per cent in a well-conducted transfusion service. When the proportion of reactions is greater than this figure, the procedure as carried out should be subjected to a careful scrutiny to determine the responsible cause. In most instances the undesirable symptoms arise because the blood is given too rapidly (it should not be injected ordinarily at a greater speed than 500 cc. per hour); on account of improperly prepared distilled water; or other causes which produce reactions of a non-specific type.

Of much more importance is the occurrence of the hemolytic reactions which not only render the blood transfusion valueless because a certain per cent of all of the injected blood is destroyed, but because such an episode may terminate fatally. In fact, if 500 cc. of blood is hemolyzed in the body, there is a 50 per cent risk of a fatal termination. Fortunately hemolytic reactions are uncommon and it is always possible to avoid them if the proper precautions are taken. A few of the causes of such a reaction may be dismissed with a brief comment. As long as human beings err, there will be an occasional tragic confusion of the blood groups. When it is recognized that this has occurred, the only helpful procedure is to *alkalinize* the patient immediately. This may be accomplished by the *intravenous injection of from* 100 *to* 200 *cc. of a* 2.5 *to* 3.0 *per cent solution of sodium citrate*. This will render the urine alkaline within 15 minutes and afford some protection to the kidney, in the hope that uremia may be avoided. The same results may be attained by giving 500 cc. of a one-sixth molar solution of sodium lactate, or a similar amount of a 4 to 5 per cent solution of sodium bicarbonate intravenously. After the injection of the intravenous solution, the urine should be maintained in the alkaline condition by the oral administration of 4.0 grams (1 teaspoonful) of sodium bicarbonate 4 times daily.

A universal donor of the "O" group is often used in patients of the other groups, but the percentage of reactions when this type of donor is used is slightly higher than when type-specific donors are utilized. There should be just one word of caution about the use of a universal donor. It should be remembered that when the blood from such a donor is used, the injected serum agglutinates all the corpuscles of the recipients of groups A, B, and AB. As the blood is usually administered slowly, and the agglutinin titer of the universal donor is ordinarily not high, sufficient dilution by the plasma of the recipient usually occurs and hemolysis does not result. In rare instances, however, the titer of the universal donor is of sufficient strength (greater than 1:32) that it has resulted in significant hemolysis of the recipient's red blood cells and caused a serious reaction. The point to bear in mind is that *a type "O" blood may be used provided the titer of the agglutinin in it for the red corpuscles of groups A, B, and AB is not greater than* 1:32.

There is always some risk in giving a blood transfusion to a patient with hemolytic anemia, regardless of how perfectly the cross-matching between the recipient's serum and the donor's red blood cells may have been. In such patients, or in any situation where there is the slightest doubt concerning the compatibility of the blood, the following procedure should be carried out. About 50 cc. of blood should be given slowly and the trans-

* Doctors who recall "sweating out" transfusions for the Department of Surgery in Ann Arbor during the 1930's by the Vinson Tube method will be relieved to read this positive statement.—Ed.

fusion then stopped for a period of one hour. If no untoward symptoms have arisen at the end of that time, it is safe to proceed cautiously with the injection of the remainder of the blood.

The Rh Factor

Of great importance is the Rh factor, both as an explanation of avoidable hemolytic blood transfusion reactions and as a basis for the hemolytic anemia of newborn infants or erythroblastosis fetalis. In general, the practitioner of medicine should know that about 85 per cent of the white race are Rh positive and the remainder Rh negative. It is the latter who experience the difficulties with blood transfusion reactions, and the women of this group who give birth to infants with erythroblastosis fetalis.

It should be impressed on all physicians that every patient who receives a blood transfusion should have an Rh determination. *If the patient is Rh negative then Rh negative blood should invariably be given.* If it is not, in the case of a male, the Rh positive blood may act as an antigen and stimulate the formation of agglutinins which will hemolyze Rh positive red blood cells (anti-Rh agglutinins), after one or more additional blood transfusions are given. In the female, in the reproductive age, who is Rh negative, there are two hazards to contend with. The one is the development of agglutinins against Rh positive red blood cells following blood transfusions with Rh positive blood, just as it occurs in the male. An additional risk is concerned with pregnancy. If an Rh positive male mates with an Rh negative female, the possibility that the fetus in utero will be Rh positive must be considered. If this occurs, the mother may be stimulated to form anti-Rh agglutinins which will hemolyze the Rh positive red blood corpuscles of the fetus. These agglutinins during the first pregnancy usually do not attain a titer which causes hemolysis of the fetal Rh positive red blood cells. In subsequent pregnancies, however, this may occur and erythroblastosis fetalis with premature birth, or death of the fetus shortly after birth, may occur. If previous to the pregnancy such an Rh negative woman had been transfused with Rh positive blood one or more times, *agglutinins already would be present in her blood.* When pregnancy occurs under the circumstances outlined above, then the agglutinins would reach a much higher titer and even the first child might be born with erythroblastosis fetalis. An additional risk is that such a mother, having anti-Rh agglutinins in her blood stream, would hemolyze the Rh positive red blood cells if they were given as a blood transfusion.

The lesson to be impressed upon all physicians is *to give only Rh negative blood to recipients who are Rh negative.* In some instances it is necessary to employ a low titer "O" or universal donor who is Rh negative in order to accomplish this. The Rh negative female who marries an Rh positive male is faced with some hazard concerning childbirth and the risk of hemolytic reactions if blood transfusions are given. It is not, however, as great as some have thought. Estimates vary, but it seems fair to state that about 13 per cent of all marriages in the white race unite an Rh positive male with an Rh negative female. In no instance, unless the female has been transfused previously with Rh positive blood, will the first pregnancy result in a child who develops erythroblastosis fetalis. In subsequent pregnancies, however, the chance of the child being so affected is about 1 in 22. Once a female has given birth to a child with the disorder, it is likely that all subsequent pregnancies will be complicated in a similar manner.

REMINISCENCES OF DECEMBER SEVENTH: I

DR. ARTHUR GORDON HODGINS† was interviewed at his office, Miller and Hotel Streets, Honolulu, on Sunday, January 31, 1943.

Dr. Hodgins was born in 1876, graduated from the University of Toronto in 1896, was licensed in Hawaii in 1899, and has been in the practice of Obstetrics and Gynecology in this city since that time.

On the morning of December 7, 1941, he and his wife and his servants were at their place on "The Peninsula" located next to the Pan American Air Base on the middle loch of Pearl Harbor. They had finished breakfast and he was waiting to bring his servants into town for the week-end when he heard the first bomb drop on Pearl Harbor. He rushed out and saw the dropping of the bombs and the anti-aircraft fire and the smoke beginning to rise from the other side of Ford Island about one mile away. About 8:15 to 8:30 they were ordered to get out, and he left with his servants for Honolulu. Near Aiea he picked up a sailor who told him that the city was under attack and that three of our ships were down and burning. He came to his office and unsuccessfully tried to call his wife, and then proceeded to the Mabel Smyth Memorial Building for the lecture of Dr. Moorhead.* He arrived there shortly before 9:00 o'clock, and found several others of the medical profession there, including two army medical officers from Schofield. (See the description by Sam Brown.) He described what he had heard and seen, and the army officers said they had just come by that way and there was nothing to it, and they went on into the meeting. Two other army officers from Schofield came in and were immediately contacted by telephone and ordered to return to their quarters. Dr. Hodgins went into the hall and informed the first two medical officers from Schofield of the orders, but they paid no attention to him and sat still.

About five minutes after Dr. Moorhead began his lecture, Dr. Jesse Smith came in and announced that twelve operating surgeons were wanted at once at Tripler General Hospital. Dr. Sam Brown of Hilo, having no transportation, asked Dr. Hodgins to take him to Tripler. They had considerable trouble getting through, because everyone was taking to the road to see what was going on at Pearl Harbor. The first five surgeons to arrive at Tripler were Drs. Strode, R. O. Brown, Sam Brown, Moorhead and Hodgins. They reached Tripler about 9:30 and were met by Major Spitler, who said, "They caught us with our pants down." Subsequently Drs. Halford, Batten, Osorio, Black and others arrived. Dr. Hodgins and Dr. R. O. Brown were directed to the Maternity floor by some Major. Dr. Halford and some of the others did most of the major surgery. When they went to get ready for surgery and had their clothes off, there were no operating suits, and he worked most of the day in his B.V.D.'s. Later in the day someone found some pajamas for them to wear. They wore the same gown nearly all day and simply washed off their gloves between cases except when they got an occasional change of gloves. There was very little equipment. They had about three sterile towels for each patient, and their instruments were extremely limited. They each had two or three hemostats, and there was perhaps one operating saw in the house. There was plenty of sulfa drugs on hand but they had a great deal of trouble getting anesthetists, there being only two or three at the hospital, and consequently they did most of their surgery under local anesthesia. They were short of suture material and dressings. The Maternity department was very ill equipped to do the major surgery, so that they did not handle anything except shrapnel wounds and amputations.

They did not see Col. King the entire day.

He stated that the Army medical officers were acting as traffic officers, directing the ambulance drivers where to take patients, but that they made no apparent attempt to act as a triage to separate the urgent surgery from that less urgent. He said that no army surgeon did any surgery the first day.

Their first case was an amputation of a leg and the repair of a urethra torn by shrapnel. Dr. Brown, a urologist, desired to use a sound to make this repair, but they were unable to find one. Dr. Halford finally found a silver catheter but they were unable to use it, and Dr. Brown decided to drain the bladder supra-pubically. The patient was a fat man and they had only a single retractor to hold the wound open, and Hodgins had to use his finger to supply the deficiency. A catheter was fastened in place and that night the patient was brought back to be catheterized, but Dr. Hodgins didn't know why.

On one occasion, apparently when the instru-

This is the first of a series of reminiscences of December 7, 1941, collected by the War Recognition Committee of the Hawaii Territorial Medical Association, Dr. Steele Stewart, Chairman.

† Deceased.

* Dr. John Moorhead of New York City had been invited to give a series of post-graduate lectures on traumatic surgery.

ments had been reduced or changed, a man with a crushed arm was brought in which required amputation, and they had to refuse to do the amputation because of lack of instruments. "They were totally unprepared for any emergency such as that; Queen's would have been better prepared."

He stated that every operation was done by the civilian surgeons, and they cleared up most of the heavy work the first day, although there was some delay in getting to some of the patients of perhaps three to four hours. The blood and plasma was supplied by the local blood bank, and Dr. Fennel remained at the hospital giving the blood and plasma as rapidly as he could.

When Black got there he had to go back and get his own instruments.

The next day he returned to the hospital and offered his services and left his name and address for call, but was not called again.

They continued to work until about 4:00 p.m. He returned to the peninsula to find that his wife had packed up but the guard had refused her permission to leave. He talked the guard into letting them go to their sons in Dowsett Highlands, where they arrived at dark.

He advised that I see Mr. Al Castle, head of the Red Cross, about the work that they had done for about a year before the "blitz," and that Col. King had done everything he could to discourage their work as being entirely unnecessary. He stated further that he thought Col. King had done more against the civilian hospitals in the city than any other individual; e.g. Queen's Hospital was overcrowded and he would not allow them to put up a temporary structure to house about fifty patients because the hospital was in a danger zone. He demanded that "Queen's Hospital keep thirty beds vacant at all times for an emergency." Again Leahi Home for Tuberculosis was overcrowded and had a waiting list, but was well equipped and staffed, but Col. King insisted on building another hospital at Wahiawa and manned by men who had not taken care of tuberculosis, instead of adding to Leahi. Asked if he thought there had been any marked increase in tuberculosis, he said No. He felt that the chlorination of the water was entirely unnecessary, as the water supply came from artesian wells and had never given any trouble.

When asked who were the men who deserved the credit for the medical civilian preparation, he said the Committee* of Judd, Strode and others.

"I have read the above report of my conversation, and it is true to the best of my knowledge and belief."

A. G. HODGINS, M.D.

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* The Medical Preparedness Committee of the Honolulu County Medical Society.

CASE REPORTS

Traumatic Avulsion of Arm and Shoulder Girdle

CLYDE L. PHILLIPS, M.D.
Hilo, Hawaii

A well built Hawaiian male, 38 years of age and weighing over 200 pounds, an employee of a contracting company, was working in a rock quarry in the capacity of a foreman or overseer for the rock crusher, when he was injured.

The following history was taken from the patient the morning after the accident. He stated:

"I noticed that the conveyor belt on the rock crusher was slipping and that the rocks were not moving up the conveyor as they should. I stood up and reached in to the conveyor to attempt to adjust the slipping belt. I was caught by the conveyor and pulled toward the crushers. I realized that I was in a dangerous place and when I felt my arm being pulled, I threw myself over the edge of the conveyor and dropped to the ground. I noticed that I had been injured severely but did not realize how serious the accident was. I ran immediately around and turned off the power supply to the crusher and then said to the boys, 'Come on boys, let's go to the hospital.' I, then, was brought to the hospital in an automobile and walked into the emergency room. Following that, I remember very little until I woke up in my bed in the hospital ward."

Fig. 1.—Appearance of wound twenty-one days after injury.

When the patient was first seen, he was on the gurney on his way to surgery. He was conscious but was pale and was showing marked signs of shock. He was perspiring profusely. He had been covered with blankets and external heat applied.

The first thing that was noticeable was the complete absence of the left arm and shoulder. The nurses had already prepared the surgery and plasma was waiting which was started into the veins of his right arm. The laboratory technician immediately typed the patient for transfusion and when she discovered that he was an O donor, she immediately volunteered to give blood since she was of the same type. This was, in itself, a life saving procedure since it would have been some hours before another donor could have been obtained.

An inspection of the wound was then made on the operating table. It was discovered that the complete left arm, including the entire shoulder and scapula and most of the muscles attached to the scapula, were missing, having been completely severed at their insertion. As the wound was explored farther, a small portion of the scapula was found; this was very jagged and sharp, and for this reason it was removed. The median nerve was lying in the wound and was about 8 inches long, the rest of it having been torn off. The nerve was then clamped and 95 per cent alcohol injected into it. A quick search was made for the other nerves but none were found, apparently having been torn off very high up.

The blood vessels were also stripped and were thrombosed, and there was very little bleeding, although there was evidence of previous hemorrhage. The blood vessels were immediately ligated and dropped back into the wound. No attempt at repair of the wound was made because of the patient's condition. Vaseline gauge packing was placed in the cavity and one or two sutures placed to bring the skin over the wound.

The patient was given a blood transfusion during this procedure and was returned to his room as soon as it was finished.

The patient responded very shortly thereafter and seemed in excellent condition. The shock had disappeared, the pulse and blood pressure were well within normal limits, and his spirits were excellent. His first words were, "This goes to prove that you can't kill a Kanaka."

Penicillin therapy was then started to combat any infection. About two hours later, the attendants at the quarry brought in the missing arm, at which time an opportunity was given to see just what had happened at the time of the accident. The fact that most of the muscles of the shoulder girdle had been torn out was proven by examination of the shoulder and arm. There

was no mangling and the tissues were easy to identify.

Forty-eight hours after the wound was packed and after the accident, the patient was returned to surgery and the vaseline packing was removed. There was no further hemorrhage, the wound was remarkably clean and an attempt was made to close all of the dead space and to close the skin over the wound, leaving two rubber tissue drains in the area. Sulfa crystals were dusted into the wound on both occasions. The wound was then closed and the patient again returned to bed.

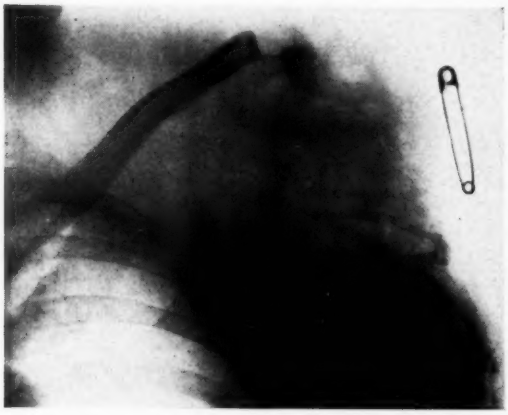

Fig. 2.—X-ray appearance of shoulder twenty-one days after injury.

Toward the end of the third day, the patient's temperature was normal. He was complaining only of pain in the amputated hand and particularly in the distribution of the ulnar and radial nerve. The alcohol injection of the median stump had, apparently, blocked the impulses from that area. Patient stated that he, at one time, had a compound fracture in the forearm and that he had had pain from time to time in that area. He now stated that he was having more pain in the region of that compound fracture.

For the next ten days, the wound drained clear serum. The sutured area remained clean and there never was at any time any pus seen in the wound. After ten days, the patient was walking around the hospital and in excellent spirits and feeling fine excepting for the recurrence of referred pain in the amputated arm at night. At the end of three weeks, the patient was discharged from the hospital with the wound practically dry. Never at any time was there any sign of infection.

The photographs and the X-ray pictures will show that the clavicle was the one remaining bone in the area. Pictures were taken twenty-one days after accident.

I do not recall ever having heard of an accident which caused so much destruction with so little general effect on the patient, and this is what has made the case so interesting.

COUNTY SOCIETY REPORTS

MAUI COUNTY MEDICAL SOCIETY

A dinner meeting of the Maui County Medical Society was held at the Wailuku Hotel, June 10, 1947. Those present were Dr. Anderson, presiding; Drs. Frank St. Sure Jr., Rothrock, Tofukuji, Cole, Rockett, Dusendschon, Shimokawa, Ed Kushi, Harold Kushi, Underwood, Kanda, Dunn, Uhde, Beland, Haywood and Alford.

A letter from Mr. Robert W. Millar, administrator of Veterans division HMSA was read, stating that the Veterans Administration cannot authorize any treatments to be rendered by doctors who are not members of the local County Society. The few doctors who fall into this category asked the society to work expeditiously as possible to get them into membership.

Dr. L. S. Rockett was unanimously accepted as a regular member of the society.

It was moved by Dr. Rothrock, seconded by Dr. Dunn, and unanimously agreed, that a letter be sent to Mrs. James R. Judd of Honolulu expressing our sympathy upon the recent death of Dr. Judd.

The following committees were appointed by the president:

First Aid Committee for County Fair—Chairman, Dr. William Patterson. Chairman will appoint the hours of individual physician coverage at the Fair, and all members of the Medical Society are requested to help as much as possible.

First Aid Committee for July 4th Celebrations at Fairgrounds—Chairman, Dr. James Fleming.

Medical Economics and Public Relations Council—to be made up of six doctors headed by the President, to be empowered to pass on vital issues in which not sufficient time is permitted for a medical meeting. They are: Drs. Ed Kushi, K. Izumi, St. Sure, Shimokawa, Underwood, Tompkins.

News Committee for publicizing Medical Society facts pertinent to betterment of Society relationship to public —Chairman, Dr. T. W. Kanda.

Annual Picnic or Party Committee—Chairman, Dr. Ed Kushi; Co-chairman, Dr. J. Sanders.

The official report on special assessments was made.

In the future it is planned to have hospital meetings. The July meeting will be held at the Paia Hospital. It will be a dinner meeting and there will be a medical presentation of interesting cases by members of this hospital staff.

T. W. KANDA, M.D.
Secretary

KAUAI COUNTY MEDICAL SOCIETY

The regular meeting of the Kauai County Medical Society was held at the Wilcox Memorial Hospital on April 9, 1947. Members present were Drs. Wade, Liu, Cockett, Boyden, Fujii, Toney, Wallis, Depp, Brennecke and Masunaga.

Communication from Dr. Hewell was read, and it was designated that the Territorial Medical Association has appointed Dr. Samuel R. Wallis and Dr. William Toney to serve on both the Maternal and Child Health and the Crippled Children Advisory Committees.

Due to some complaints by physicians on manner of handling two specific cases by the KMSA, it was decided that these cases be presented to the HMSA with a request for some definite policy.

Motion was made and passed that secretary write letters to our Kauai legislature expressing our opposition to the legislative bill pertaining to compulsory health insurance.

Annual election of officers took place and the results were:

President	Dr. Depp
Vice President	Dr. Toney
Secretary-Treasurer	Dr. Cockett
Censors:	
Dr. Wallis	to serve 2 years
Dr. Wade	to serve 3 years
Dr. Chisholm	to complete his final year
Delegate	Dr. Boyden
Alternate Delegate	Dr. Brennecke

Meeting adjourned at 8:30 p.m.

EICHI MASUNAGA, M.D.
Secretary

HONOLULU COUNTY MEDICAL SOCIETY

Meeting: July 30, 1947

Present: Dr. Hill, presiding; 80 members present.

Announcements: Drs. Janet M. Boog and Gilbert Freeman were welcomed as new members into the society. The membership agreed to waive the '47 assessments of Dr. Tomita, because he has just returned from service in the armed forces and is beginning his private practice; Dr. Taylor, because of financial stringency; and Dr. Meller Biddle, because she has given up her position with the Territorial Hospital, Kaneohe, and will soon leave her part-time private practice.

Dr. Hill brought before the house for approval a recommendation of the Board of Governors, that a series of lectures be given to familiarize the new doctors with the objects of the society.

Action: A motion by Dr. G. Milnor, that the matter be set aside for study and consideration, was carried by a majority vote.

The membership approved the proposal that the Department of Public Welfare payments to the society for the care of indigent sick terminate as of July 31.

Mr. Carl Flath, superintendent of Queen's Hospital, outlined plans for a school for practical nurses, and asked the society's endorsement of such plans. He explained that it was essential to train home nurses and particularly orderlies under the new Nurses' Practice Act. The school will be conducted by the Department of Public Instruction.

Action: On motion by Dr. Arnold Jr., duly seconded, the membership agreed to endorse plans for the school for practical nurses.

Dr. F. D. Nance introduced a resolution:

WHEREAS: The present accepted masculine dress of tight collar, tie and coat during the summer months is an anachronism dictated solely by tradition, and

WHEREAS: The wearing of an aloha shirt without coat represents a comfortable, sensible and typically Hawaiian form of summer attire,

BE IT RESOLVED: That the Honolulu County Medical Society heartily endorses the use of such sensible dress by its members during working hours.

Action: The resolution, duly seconded, was passed by a large majority.

Dr. Majoska recommended that a law be made to give the City and County coroner jurisdiction to investigate unattended deaths. He explained that to date no such authority has been given to the coroner.

Program: Dr. Hill introduced Dr. Howard Brodie Stephens of the University of California Medical School, who spoke on "Congenital Anomalies of the Heart and Great Vessels." Dr. Stephens gave a very interesting lecture with illustrative slides.

S. L. YEE, M.D.
Recording Secretary

BOOK REVIEWS

Diseases of Metabolism. By Garfield G. Duncan, M.D. 1045 pp. Price $12.00. W. B. Saunders Co., Philadelphia and London. 1947.

The book includes contributions from twenty-one high ranking doctors in the field of nutrition.

Metabolism is defined as "the sum total of tissue activity as considered in terms of physico-chemical changes associated with and regulated by the availability, utilization and disposal of proteins, fats, carbohydrates, vitamins, minerals and water, and the influences which the endocrines affect in these processes." To explain and prove this, follow 1045 pages of concentrated material, fascinatingly presented and fully documented. With each chapter is incorporated some of the history of the brilliant pages that made up the development of this young but vigorous science. For instance, in basal metabolism, the names of Lavoisier, Carl Voit, Rubner, Lusk and DuBois are a series of bright lights on the metabolic way from the dark days of the French revolution to the bright progress of recent years in the United States.

The fuller knowledge of nutrition now involves not only calories, carbohydrates, fat, protein and minerals, but the vitamins, the role of the hormones, the electrolytes, the interrelation of minerals, water and buffer substances and the different influences that may vary their actions. The whole new field of amino acids has completely changed our concept of protein metabolism. It is not the quantity any longer but the quality of proteins that counts.

Recently by the use of isotopes, many of the body chemicals can now be traced through the body and through the different organs. The isotopes act like a tag on any chemical to be studied. Thus many substances can be followed throughout their course and to their destination. Innumerable doors to further research have been opened by this method.

The relation of the endocrine glands to metabolism is becoming more and more important. Epinephrine is "a hormone that enables considerable quantities of glucose to be rapidly liberated into the blood stream under conditions of violent effort or emotion and . . . is considered as a regulator of carbohydrate metabolism. Cortical function is probably related to some metabolic process which links both the alteration in carbohydrate and electrolyte metabolism. It may also affect protein metabolism."

"The active crystalline steroids, isolated from the adrenal cortex, are involved in this mechanism." . . . "These are 11 Dehydrocorticosterone, corticosterone, 11 dehydro—17 hydroxy-corticosterone and 11 hydroxy—17 hydroxy-corticosterone. This is the order of their activity." This gives some idea of the complexity of present day thinking in this field.

The next paragraph contains the staement, "Thyroxin . . . produces . . . increased tissue protein catabolism, an accelerated utilization of fats and a reduction in the liver glycogen." But the "central brains" of this hormone control is apparently the anterior pituitary, i.e., "the anterior pituitary has a widespread influence on carbohydrate metabolism both by its trophic effect on thyroid and adrenal cortex and also by some principle that apparently acts directly on the tissues."

The body is pictured as a dynamic mechanism in which the protein of the body is constantly being torn down and resynthesized. Cholesterol is constantly being destroyed and remade, and the fat in the diet has no effect on this cholesterol mechanism. Red cells with a life span of 45 to 100 days are pictured as active workers loading, carrying and unloading oxygen and are said to be formed at a rate of a trillion a day. It is stated that even adult teeth can no longer be considered metabolically inert.

The kidney is pictured as an extremely active laboratory in which in the course of each day, liters of fluid containing salt are poured into the alimentary canal, only to be withdrawn to their source again. Under normal conditions 99 per cent or more of the water and sodium salt filtered through the glomerulae are absorbed by the tubules.

In this active mechanism the vitamins are described as "organic food substances which in however small quantities are necessary for maintaining proper growth and continued health . . . some are involved (as catalysts probably) in systems governing oxidation of carbohydrates, proteins and fats . . . the judicious use of them is revolutionizing medicine." The diseases produced by disturbances of these various mechanisms are avitaminoses, undernutrition, obesity, xanthomatoses and glycogen disease, gout, hyperinsulinism, diabetes insipidus, melituria, diabetes mellitus, disorders of the thyroid gland, disease of the kidney and also some aspects of disorders of the blood. Diagnostic methods and treatment are given, as well as a final table of the composition of food.

However, the story of how these substances have been analyzed in health and disease is so complicated, I would recommend a careful study of this book for anyone who wishes to be up-to-date in this vital science. The book suggests a need for a complete revolution in our thinking of the accepted metabolic knowledge of ten to twenty years ago.

NILS P. LARSEN, M.D.

Personal Health and Human Relations. By Lillian L. Biester, William Griffiths, and N. O. Pearce, M.D. 264 pp. Price $3.50. The University of Minnesota Press, Minneapolis, Minnesota. 1947.

The formidable title of this volume was evidently adopted by the authors, who are all associated with the Educational Services of the Minnesota State Department of Health, in an attempt to avoid the stigma which may be attached to such terms as "Sex Education." This is in conformity with the policy which they recommend of avoiding attempts to arouse public interest in this subject, but rather to include it in the school curriculum with a minimum of fanfare. The book includes teaching

materials and methods designed to enable teachers to give their students correct information about sex and family life in a wholesome way. Most commendable is the division of the material for presentation so that the period of latency of sexual interest is *not* utilized for sex education. Recognition of the need for instruction in this field over a period of time, by teachers with whom the students are familiar rather than by a visiting expert, is important.

This reviewer believes that sexual education ideally is a function of family life, but until a Utopian state of parental enlightenment comes about, the sound presentation methods of this work should be given wide use.

BRYANT WEDGE, M.D.

Principles and Practice of Medicine. By Henry A. Christian, A.M., M.D., LL.D., (Hon.) Sch.D., Hon. F.R.C.P. (Can.), F.A.C.P. 16th edition. 1539 pp. Price $10.00. D. Appleton-Century Company, Inc., New York. 1947.

This is the sixteenth edition of the original Osler textbook of medicine, and it is the first to appear since 1944. It is the purpose of the author, Dr. Christian, and the publisher to revise this text at frequent intervals in order to keep abreast as well as possible of advancements in the field of medicine. Basically the text contains the same material as was found in the fifteenth edition. There are, however, many changes which are important to the student in medical school as well as to the practitioner who has need to refer frequently to a medical text.

The history of the previous editions is well written at the beginning of the book by Dr. James Carr of Northwestern University. It is a fascinating summary of the key changes in the early Osler editions and dramatizes the miraculous medical progress that took place between 1892 and 1946. This is one of the very few books that incorporates a resume of this sort; other frequently-revised medical books would do well to emulate this procedure.

A whole section in this text is delegated to functional diseases. The importance of psychosomatic medicine is stressed.

The section on infectious diseases is exhaustive in its scope. Complications and therapy are well presented. The Osler text has always been rich with suggestions for supportive care to the patient, and Dr. Christian has embodied most of these in his discussion of therapy for the various diseases. I particularly enjoyed some of the old-fashioned suggestions for local treatment of arthritis, especially the polyarthritis of acute rheumatic fever. Much of this therapy is overlooked in present day teaching, and whereas it may not be in the same class with our modern chemotherapy, there is no question but that the use of unguents to swollen joints is of value from the standpoint of soothing, both locally and psychologically.

In the section on liver diseases the presentation of infectious hepatitis is modern. The work done by research men during the late war is quoted, and particularly the clinical studies by M. Herbert Barker in the European theatre are obviously drawn on for much of the newer and revised material. With the exception of controversial use of methionine and choline, the modern concept of the treatment of infectious hepatitis as well as its sequelae, diagnosis, and laboratory data are extremely well covered.

There is a concentrated and well done two pages on aviation medicine outlining what it comprises and what is important for the men who specialize in this field. Since it has become such an important phase of over-all medicine, it is opportune to include the discussion of it in a modern medical text.

Metabolic diseases are well covered. Much space is devoted (as well it should be) to the management of diabetes. The various types of insulin are discussed briefly, although the author suggests that protamine zinc and crystalline insulin should be the insulins of choice. He therefore devotes most of the discussion to protamine zinc, crystalline, and amorphous insulins.

Heart disease is covered in its entirety, including a few pages on functional heart disease. The discussion of the latter is of great importance because so many people in this era have become quite cardiac conscious. The material is well handled and should help students as well as practitioners crystallize their ideas about what is and what is not organic heart disease. Little discussion of the use of digitoxin is included in the author's coverage of the various digitalis products. Most of the space is delegated to powdered digitalis leaf, but among the other products digitoxin is mentioned. The author indicates that probably this would become the drug of choice in the future. The leading men in the field of cardiology have been advocating the use of digitoxin for several years, and I believe it is the digitalis choice of the present. The outline of therapy for subacute bacterial endocarditis is far behind our present concepts. Considering that this was written around May of 1946, I am somewhat surprised that it went into print as it did. Mention is made of isolating the organism and testing its resistance in vitro to penicillin before starting penicillin therapy. The author completely ignores any result which may have been obtained in the test and advises penicillin be given intramuscularly or intravenously, 300,000 units a day and then if good results are not obtained to increase the dose gradually until a million units a day are given. Most workers in this field today agree that, after determining *in vitro* the resistance of the organism to penicillin, the lowest concentration of penicillin which will inhibit the growth of the organism should be quadrupled for immediate therapeutic administration to the patient.

Another criticism is the lack of specific dosages recommended in many instances. It is not sufficient to say that a person should receive potassium iodide or chloral hydrate, but the dosage which the author feels is indicated in average cases should be mentioned. This is of great value to the practitioner in the country or in a community where access to pharmacology texts, or books with dosage tables, is not available. On the other hand, the number of therapeutic agents which are recommended by the author give a practitioner plenty of room for trial in the event that one therapeutic agent fails. Streptomycin is included under those diseases on which it is known to have effect.

All in all the sixteenth edition is an excellent text and for those practitioners who want a ready and available source of information on general medicine, I would highly recommend Christian's text for their book shelf.

MORTON E. BERK, M.D.

The Medical Clinics of North America: Pediatrics. New York Number. 773 pp. Price $16.00 per year. W. B. Saunders Company, Philadelphia. 1947.

This symposium is a collection of articles and reports on clinical subjects of pediatric nature ranging from rheumatic fever to endocrinology. It represents the latest in pediatric thinking and observations in clinical work. It is of particular value to the man who sees children in his practice, and should be a "must" for every man doing pediatrics as a specialty. For the general practitioner it is an excellent reference work for a large number of unusual conditions.

D. C. MARSHALL, M.D.

Tuberculosis as it Comes and Goes. By Edward W. Hayes, M.D. 2d edition. 220 pp. Price $3.75. Charles C. Thomas, Springfield, Illinois. 1947.

The contents of this book would have to be good in order to offset the effect of so atrocious a title. I think we are justified in overlooking this fault and in benefitting from the material between the covers.

The book is written primarily for patients, but there is much of value to the medical profession—particularly to that vast majority to whom tuberculosis must of necessity be one of many: those who do not specialize in the disease. I can think of no better method of sampling this book than to quote some of the author's subtitles. Some of these have the flavor of detective fiction and should arouse interest of those who are primarily addicted to this type of reading matter.

"The real culprit" is used as a sub-heading for the chapter on the tubercle bacillus; "how the tiny culprit gets about" for theories of infection. Under control of infection is the statement: "tuberculosis always comes from tuberculosis." In this chapter there is a good deai of information about control which may seem simple, but it is often the simple things which are least known. In addition, there is a strong plea for the use of x-ray rather than fluoroscope in diagnosis, and also for the continued use of tuberculin testing, especially in schools, and in spite of miniature x-ray.

The section on diagnosis is probably the most important one to the general man. The four cardinal steps are: 1) skin test; 2) x-ray; 3) search for bacillus; 4) follow-up.

The subtitles of the chapters on treatment very aptly summarize the subject and in themselves contain the basic principles. "Treatment of the patient is more important than treatment of disease." Treatment of primary tuberculosis "is relatively simple." In treatment of secondary tuberculosis, "attention to details is the keynote to success." Rest is "the basic principle in treatment." Diet consists of "prudent feeding rather than over-feeding." "Environment is more important than climate." Heliotherapy "has no place in the treatment of pulmonary tuberculosis." Time is "the great healer." Mechanical therapy is "an adjunct to rest." "Tuberculosis is not cured by drugs." "The sanatorium is an atmosphere" and "the cure is a way of life" are abstractions which should be understood by every patient.

The chapter on pregnancy alone should justify the book to the general man. It is a convincing argument against the widespread practice of resorting to therapeutic abortion. The chapter is certainly worth consideration when called upon to make this difficult decision.

The section on rehabilitation is much too meager for so important a subject, and the use of actual x-rays rather than diagrams would have been more illuminating. But these are minor defects, and on the whole the book is a clear and concise presentation of the subject. The fact that the author was himself a patient has undoubtedly helped him make this book comprehensive to laymen as well as useful to the profession.

By far the most interesting chapter is that on Suggestions to Patients, contributed, not by the author, but by Laurence de Rycke, Ph.D. Reprints of this chapter should be given to every patient entering a sanatorium. Its fault is that it is written by a man with mental capabilities well above average, but the suggestions he makes for the use of time which is so often inexcusably wasted, should be helpful, even if incompletely understood and improperly followed.

It might be well to end this review with the subtitle—a quotation from Franklin Roosevelt—which establishes the atmosphere of this chapter: "The only limit to our realization of tomorrow will be our doubts of today."

GEORGE A. WILLIAMSON, M.D.

Diseases of the Chest. By Eli H. Rubin, M.D., and Morris Rubin, B.A., M.D. 667 pp. Price $12.00. W. B. Saunders Company, Philadelphia and London. 1947.

Dr. Eli H. Rubin and his brother, Dr. Morris Rubin, have in this book attempted to give us as complete a description as it is possible to give in one book of the diseases of the chest, both surgical and medical, as they are known at the present time.

The book is well written and easily read. Their discussion of the various diseases in the book is for the most part brief and ordinarily contains the most important facts to be considered in the diagnosis and treatment of the various types of chest diseases. They include the more recently and much discussed conditions such as histoplasmosis and also give a limited description of coccidioidomycosis of the lungs. The importance of the X-ray aspect of the disease in diagnosis is demonstrated in this book by the frequent illustrative photographs of X-rays of the various pathological conditions described. Numerous color plates are also included; these color plates have been drawn by Dr. Netter, originally for Ciba Pharmaceutical Products, Inc., and their worth has long been recognized by those of us who have been interested in chest diseases.

Important factors such as bronchial obstruction, its pathology, physiology, and diagnosis, diseases of the mediastinum and diaphragm, plus diseases of the lungs, which result from heart disease, are included in this excellent book. Principles of surgical treatment of thoracic diseases are included in the book. This too is an important aspect of diseases of the chest due to the fact that the medical management of chest diseases often may quickly become surgical. This emphasizes the close relationship of both the medical and surgical aspects of chest diseases; consequently such a section is not out of place in this book.

The section on tuberculosis is, of course, by no means complete since the subject is so wide in itself that a book of this type could not hope to cover anything but the high points; however, in this it does that fairly well.

This book in itself does not and could not give the whole story and last word in chest diseases. However, it is an excellent book to have at hand for any doctor who may be interested or who may at any time have a patient whom he wishes to study completely.

FREDERICK L. GILES, M.D.

Gynecology, Including Female Urology. By Lawrence R. Wharton, Ph.B., M.D. 1027 pp. Price $10.00. W. B. Saunders Company, Philadelphia and London. 1947.

Perhaps the greatest virtue of this book is the organization of the material. The entire field of gynecology is presented in a well outlined, clear and concise manner. Especially well done are the chapters entitled Physiology and Functional Disturbances. The fundamental problems, present knowledge and clinical applications have never been better said. It is always more reassuring to me to have these complex problems assayed and evaluated in concise words rather than in beautifully illustrated and disarmingly stated pamphlets we so often find on our desks.

The last 200 pages of this book are devoted to urological problems. This is in keeping with present gynecological thought and practice. In the past too little clinical attention has been paid to correlation of the intimate embryological derivation and pathological problems of the genitourinary systems.

Illustrations, while well chosen, for the most part are not new. Liberal use has been made of cuts from other books in this field that have been presented by the Hopkins group. The printing is good and the quality of the paper is better than we had become accustomed to during the war years. References to source material are given at the end of each chapter. While intended primarily for medical students this is an excellent text which anyone interested in this field could well afford to have on his shelves.

F. C. SPENCER, M.D.

Physician's Handbook. By John Warkentin, Ph.D., M.D., and Jack D. Lange, M.S., M.D. 4th edition. 282 pp. Price $1.50. University Medical Publishers, P. O. Box No. 5067, Chicago. 1946.

The authors have produced in a pocket size edition an excellent compendium of medical information and figures. This book is intended primarily for fourth year medical students and interns who have studied all of the details pertaining to the facts that are given, for one who has not experienced medicine through the repetition of cases will most appreciate having these factual data of medicine at his fingertips. On the other hand, there is a great deal of numerical information in medicine to which all of us must refer frequently and for which a book of this type may serve as a convenient and ready reference.

As the preface to the fourth edition states, "The purpose of this HANDBOOK has been to summarize tersely, clearly and comprehensively diagnostic procedures and factual data which a physician must have quickly available." This book has succeeded admirably in that end, without making any attempt to go into detailed explanation of any of the facts presented, which it is assumed the reader thoroughly understands or for which he will consult original sources of information. When one attempts to produce such a book it must be understood that, because of the nature of this undertaking, it must be subjected to revisions almost annually. Such has been the case with this Handbook, of which editions appeared in 1941, 1942, 1944 and 1946—and already by the time it has left the press there will be new things that have come out which will not appear in its pages. Drugs that we are hearing a lot about now, such as tetraethyl ammonium are not to be found in this volume, as little was heard of them one year ago. Likewise, there is no mention of the new uses of paraminobenzoic acid, as in the treatment of typhus fever.

In general, this is an excellent volume which accomplishes the goal set for it. It far surpasses any other similar type of publication which I have seen. This book is a *must* for all interns and can be highly recommended to all practitioners of medicine. This is the type of book which one should not only purchase once but should keep up to date with the new editions as they appear.

L. CLAGETT BECK, M.D.

P-Q-R-S-T, a Guide to Electrocardiogram Interpretation. By Joseph E. F. Riseman, M.D. 84 pp. 2nd edition. Price $3.50. The Macmillan Company, New York. 1947.

This second edition of Dr. Riseman's "A Guide To Electrocardiogram Interpretation" is an extremely useful manual. It is small enough to slip into a coat pocket, and its simplicity is such that with its aid most physicians should be able to read the average ECG.

This is a primer for those physicians who are interested in understanding ECG's. The author admits his book does not cover all the fine points, but it will help the doctor who is interested in reading his own tracings. He stresses the importance of using the ECG only as a diagnostic aid. The clinical examination is most important, and the ECG should be used to aid or confirm this diagnosis.

There are several factors which make this little handbook unusual. One is the method of breakdown for each part of the ECG and an intensive study of that part. For example, the discussion of the "P" wave includes all the aspects of that wave. The various conditions which produce both the normal and abnormal "P" waves are listed, and those conditions which are most commonly found in conjunction with either the normal or abnormal are capitalized. Another feature of the book is the tab form at the edge of each page which indexes that part of the ECG in which one might be particularly interested. To look up something about the "P-R" interval the book may be opened quickly where the tab of "P-R" appears in a black block. Precordial leads and their importance are amply demonstrated with interpreted tracings. Both "V" and "C" precordial leads are represented, and no attempt is made by the author to place the value of one above the other. At the end of the manual there are thirty-one brief case histories with their associated ECG's. The reading of the tracing follows the history, and then the interpretation of the reading completes each case. Both normal and abnormal conditions are included.

For any physician who is interested in electrocardiography enough to want to interpret tracings of his patients, I would highly recommend Dr. Riseman's manual as a simple, instructive guide.

MORTON E. BERK, M.D.

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after 12 noon on Territorial holidays

NOTES ON A MAINLAND TRIP

. . . one of the nice things about flying with United Airlines is the pre-takeoff treatment . . . coffee and cigarettes, served in attractive surroundings . . . on Sunday, May 18, about 7:00 in the morning, I took off for San Francisco on the first leg of my trip to the Medical Library Association meeting at Cleveland, Ohio . . . discovered Dr. and Mrs. Pinkerton among those aboard . . . the nine-hour flight east was punctuated at the right intervals with breakfast, lunch, cocktails, and then a buffet dinner . . . one does not go hungry . . . landing about sunset with the hills of California glowing golden beneath us . . . first professional stop happened to be the library of the Cutter Laboratories, in Oakland . . . a small affair, but particularly good in the chemical and biological journals, with an excellent representation of foreign publications in these fields . . . Cutter borrows from Cal or Stanford medical libraries . . . they offered our library any duplicates of their biochemical files . . . spent some time in their labs, where they were preparing dried plasma and glucose, and working on a new type blood filter . . . the UC Medical Center Library, housed in an old frame building out Parnassus way, had a large staff and a large collection . . . used mainly by students and doctors on the school staff . . . are very short on space, and have high stacks jutting out into the main room, making a series of alcoves . . . big dental collection . . . liberal circulation rules . . . Stanford's library on Sacramento St. . . . a long street car ride from the center of town . . . a fine collection, in fine condition . . . particularly good on medical history, and much foreign material . . . seem to be hampered by lack of staff and funds . . . cannot do much reference work as a result . . . stopped on Washington St. to visit the San Francisco County Medical Society Library . . . housed in the interesting old Irwin residence . . . very small collection of bound volumes . . . doctors considering discontinuing this library since they have access to the other two . . . may sell old volumes . . . then, on Friday, I left the Bay Area for Chicago . . . stayed at the Palmer House . . . my first taste of big city life since the war . . . managed to see Joe E. Brown in "Harvey" . . . inspected the Northwestern University medical and dental libraries . . . most impressive . . . excellent staff using latest methods . . . visited the John Crerar Scientific Library on Randolph St. . . . Miss Salmonsen, the librarian, most gracious and charming personality . . . the collection is outstanding . . . and open to the public . . . all their work is reference . . . no material can circulate . . . have almost anything a doctor or any scientific worker could desire . . . on a windy day . . . very windy . . . wished I had weighted skirts . . . walked over to the AMA building on Dearborn St. . . . Mrs. Moore showed me around . . . they receive all medical journals primarily for indexing use . . . saw the July-Dec. 1946 Index Medicus still in card form . . . labor troubles with printers holding up publication . . . negotiating with other printers . . . kept busy training assistants for indexing due to restlessness in all working conditions . . . they keep only journals for past ten years, turning over old files to the Army Medical Library . . . tear up duplicates for pamphlets to be used in their package service . . . available only to doctors inside the continental limits, unfortunately . . . then on to Cleveland for the 46th annual meeting of the Medical Library Association . . . May 27 through 29 . . . nearly two hundred librarians registered . . . from all over the country . . . Cleveland hosts gave us a wonderful time . . . toured Dittrick Museum of Historical Medicine and the Army Medical Library Branch, both housed in the Cleveland Library building . . . one of the most beautifully designed I've ever seen . . . a memorial to the name of Dr. Allen . . . several rare collections . . . heard Dr. Morris Fishbein speak at Wade Park Manor dinner . . . guests, the next evening, at a buffet given by Dr. and Mrs. Robert Stecher at their beautiful

estate on the Lake shore . . . at the Association meeting two points of business brought up the first day . . . proposed revision of the exchange service organization, and a recommended training program for medical librarians . . . a most necessary and forward-looking proposal . . . a discussion of the value of regional meetings for medical librarians and other problems peculiar to the profession were argued . . . reports of committees . . . election of new officers, etc. . . . most of the subjects considered were timely and interesting, but we of the "Junior League" agreed that the informal confabs after hours were more productive of practical ideas . . . also, the opportunity to become better acquainted . . . so that the medical libraries we represented might become more than a name on a letterhead . . . was asked by many why Honolulu would not be a good place for one of the next meetings . . . they'd all love to be invited . . . Dr. Ballard of the Boston Medical Library invited us to visit his library if we were going further east . . . Texas's Dr. Chauncey Leake was there, and wanted to be remembered to his friends in Hawaii . . . as did Colonel Harold Jones . . . Dr. Dittrick sent messages to Dr. Pleadwell . . . then a side-trip to Washington State and Canada for a two weeks vacation with the family . . . revisited the Spokane and Seattle County Society libraries . . . and back to Hawaii.

ETHEL HILL,
Librarian

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RECENT ACQUISITIONS

Gynecology and Obstetrics

DeLee, J. B. *Principles and practice of obstetrics.* 9th ed. c1947. (Gift of publisher).

McCormick, C. O. *A textbook on pathology of labor, the puerperium and the newborn.* 2nd ed. c1947.

Wharton, L. R. *Gynecology; with a section on female urology.* 2nd ed. c1947. (Gift of publisher).

Miscellaneous

Biester, L. L. *Units in personal health and human relations.* c1947. (Gift of publisher).

Collins, Joseph *The doctor looks at literature.* c1923.

Comroe, B. I. *Arithritis and allied conditions.* 3rd ed. c1944.

Harries, E. H. R. *Clinical practice in infectious diseases.* 3rd ed. 1946.

Katz, L. N. *Electrocardiography.* 2nd ed. rev. c1946.

Lederer, F. L. *Diseases of the ear, nose and throat.* c1938. (Gift of Dr. Cloward).

Ross, T. A. *The common neuroses.* 2nd ed. 1937.

Stimson, P. M. *Manual of the common contagious diseases.* 14th ed. c1947.

Warkentin, John *Physician's handbook.* 4th ed. (Gift of publisher).

Wolff, Eugene *A pathology of the eye.* 2nd ed. 1946.

Nursing (from Nurses' Association)

Averill, L. A. *Psychology applied to nursing.* 3rd ed. c1946.

Biddle, H. C. *The mathematics of drugs and solutions.* 3rd ed. c1945.

Brookes, H. S. *A textbook of surgical nursing.* 2nd ed. c1940.

Brown, A. F. *Medical nursing.* c1945.

Burdon, K. L. *Textbook of microbiology.* 3rd ed. rev. c1947.

Crossen, R. J. *Gynecologic nursing.* 3rd ed. c1946.

Cutting, W. C. *Actions and uses of drugs.* c1946.

Deming, Dorothy *Careers for nurses.* c1947.

Densford, K. J. *Ethics for modern nurses.* c1946.

Eliason, E. L. *Surgical nursing.* 7th ed. c1945.

Emerson, C. P. *Essentials of medicine.* 15th ed. c1946.

Faddis, M. O. *Textbook of pharmacology for nurses.* 2nd ed. c1943.

Fash, Bernice *Body mechanics in nursing arts.* c1946.

Felter, R. K. *Surgical nursing.* 4th ed. c1946.

Foote, John A. *State board questions and answers for nurses.* 24th ed. c1947.

Funsten, R. V. *Orthopedic nursing.* c1943.

Gelinas, Agnes *Nursing and nursing education.* c1946.

Goostray, Stella *Problems in solutions and dosage.* c1945.

Gordon, H. P. *Counseling in schools of nursing.* c1947.

Gotten, Nicholas *Neurologic nursing.* c1945.

Harrison, Gene *The nurse and the law.* c1945.

Heidgerken, L. E. *Teaching in schools of nursing.* c1946.

Jensen, D. M. *The principles and practice of clinical instruction in nursing.* 2nd ed. c1946.

Jessee, R. W. *Self-teaching tests in arithmetic for nurses.* 2nd ed. c1945.

Karnosh, L. J. *Psychiatry for nurses.* 2nd ed. c1944.

McGrath, B. J. *Nursing in commerce and industry.* c1946.

Moersch, F. P. *Neurology and psychiatry for nurses.* c1946.

Morris, E. H. *Public health nursing in syphilis and gonorrhea.* c1946.

Ockerblad, N. F. *Urology for nurses.* 2nd ed. c1943.

Parkinson, R. H. *Eye, ear, nose and throat manual for nurses.* 5th ed. c1944.

Parsons, E. J. *In the doctor's office.* c1945.

Price, A. L. *Professional adjustments I.* c1946.

Robinson, Victor *White caps.* c1946.

Sellew, Gladys *A history of nursing.* c1946.

Sellew, Gladys *Sociology and social problems in nursing service.* 2nd ed. c1946.

Smith, E. M. *Solutions in ten lessons.* 5th ed. rev. c1944.

Triggs, F. O. *Personnel work in schools of nursing.* c1945.

Turner, C. E. *Personnel and community health.* 7th ed. c1943.

Waterman, T. L. *Nursing for community health.* 2nd ed. c1947.

Williams, J. F. *Personal hygiene applied.* 8th ed. c1946.

Pharmacology and Therapeutics

A. M. A., Council on Pharmacy and Chemistry *New and non-official remedies.* 1947. (Gift of publisher).

Committee of Revision, U.S.P. *Pharmacopoeia of United States of America.* 13th rev. 1947. (Gift of U.S.P.C.).

Hawaii Dietetic Association, Diet Therapy Committee. *The Hawaii diet manual.* c1947. (Gift of Hawaii Dietetic Association).

Kolmer, J. A. *Penicillin therapy.* 2nd ed. c1947.

Spies, T. D. *Experiences with folic acid.* c1947. (Gift of publisher).

Wiselogle, F. Y., ed. *A survey of antimalarial drugs.* 1941-45. 2v. c1946. (Gift of Library of Congress).

Surgery

Brown, G. Van I. *The surgery of oral and facial diseases and malformations.* 4th ed. rev. c1938. (Gift of Dr. Cloward).

Maliniak, J. W. *Sculpture in the living.* c1934. (Gift of Dr. Cloward).

Portmann, Georges *A treatise on the surgical technique of otorhinolaryngology.* c1939. (Gift of Dr. Cloward).

Tuberculosis

Brieger, E. M. *The Papworth families.* 1946. (T.B. Association).

Hayes, E. W. *Tuberculosis as it comes and goes.* 2nd ed. c1947. (Gift of publisher).

Rubin, E. H. *Diseases of the chest.* c1947. (Gift of publisher).

NOTES AND NEWS

PERSONALS

DR. F. L. GILES, of Honolulu, has been certified by the American Board of Internal Medicine and also in the sub-specialty of Pulmonary Diseases. He is also a Fellow of the American College of Chest Physicians and an Associate of the American College of Physicians.

DR. LYLE BACHMAN, until recently the resident at Kapiolani Hospital, has become associated with DRS. BATTEN and BELL, and will specialize in obstetrics and gynecology. Dr. Bachman is a native of Utah and a graduate of Rush Medical College of the University of Chicago, in 1941. He interned in Chicago and following a tour of duty in the Navy has been the resident physician at Kapiolani Hospital for the past two years.

DR. F. J. HALFORD, of The Medical Group, has left to take a year of post-graduate study at Columbia University in New York, where he will specialize in industrial medicine, labor relations, labor management and health education. When Dr. Halford returns he will become director of the industrial medical service bureau of The Medical Group.

DR. MARQUIS E. STEVENS, of the Fronk-Wynn Clinic, has returned after an extended trip, during which he attended several medical conventions as well as studies in Boston, New York and Madison, Wisconsin.

DR. GILBERT M. HALPERN, of Honolulu, has returned to his practice after spending the summer in California and New York City.

DR. HOMER R. BENSON, of Honolulu, is attending the International Post-Graduate Medical Assembly in St. Louis, following which he will take a course at the Cook County Hospital in Chicago.

DR. R. B. CLOWARD, of Honolulu, attended a post-graduate course of the National Foundation for Infantile Paralysis in San Francisco as the representative of the Hawaii Chapter. Following this he visited the Salt Lake City Centennial, this being his former home. His father and mother, DR. AND MRS. RALPH E. CLOWARD, formerly of Honolulu, returned with him for their first visit since 1939, when Dr. Cloward retired from The Clinic.

DR. TERUO YOSHINA, of Honolulu, has been honored by his election to Fellowship in the American Academy of Pediatrics. Dr. Yoshina recently moved to Honolulu from Hilo.

DR. RICHARD Y. NODA has returned to Honolulu after an absence of nine years. After graduation from the University of Hawaii in 1938 he attended the St. Louis University School of Medicine, receiving his M.D. degree in 1942. He interned in St. Louis and was resident physician at the Bethesda and Silver Cross Hospitals before entering private practice in Chicago for two years. While in Illinois, Dr. Noda was married to Miss Helen Larsen, who was assistant superintendent of nurses at the Silver Cross Hospital. Prior to locating in Honolulu, Dr. Noda is temporarily taking the practice of DR. WALTER M. OZAWA, who is on the mainland.

DR. RICHARD SAKIMOTO, Honolulu obstetrician and gynecologist, has been honored by his unopposed election to the presidency of University of Hawaii Alumni Association.

DR. AND MRS. THOMAS F. FUJIWARA, of Honolulu, became parents of a daughter, their third, at The Queen's Hospital, on July 9.

DR. H. MCLEOD PATTERSON, formerly of Olaa, has moved to Honolulu and opened offices for the practice of obstetrics and gynecology in the King Kalakaua Building.

DR. L. Q. PANG, of Honolulu, has resumed his practice after spending two months in Chicago with Dr. George E. Shambaugh, Jr., in fenestration surgery for otosclerosis, as well as visiting clinics in St. Louis.

Their first child, Christa Lee, was born to DR. AND MRS. CASEY DOMZALSKI, chief medical resident at The Queen's Hospital, on August 8.

DR. AND MRS. PHILLIP S. ARTHUR, of Honolulu, are parents of their second child, Peter Linn, born at the St. Francis Hospital August 6.

DR. CARL PETERSON, Secretary of the Council on Industrial Health of the American Medical Association, visited Honolulu, Hawaii, and Kauai during August on the invitation of the H.S.P.A. Mrs. Peterson accompanied him. Dr. Peterson addressed the Honolulu County Medical Society on August 27, at a special evening meeting, on the subject of the physician and industry.

DR. FRED M. K. LAM, son of DR. FRED K. LAM, who recently started his interneship at The

Queen's Hospital, was married on August 14 to Miss Marie Link. The wedding took place at the Sacred Heart Church, Honolulu, and a reception was held at the Ala Wai Commissioned Officer's Club. Mrs. Lam is a graduate nurse at the Children's Hospital.

DR. SUMNER PRICE, medical director and pathologist at The Queen's Hospital, was married on July 19 to Mrs. Ysobel Tyer Johnson in the chapel of Central Union Church. DR. JOHN MANWARING, resident in pathology at Queen's, was the best man.

DR. FRED IRWIN, medical director of the Kuakini Hospital and of the HMSA, was honored in July by a testimonial dinner at the Hilo Yacht Club by the Hawaii County Medical Society. Dr. Irwin served as a plantation physician for thirty-five years on Hawaii before coming to Honolulu in 1939 for his "retirement." As a goodwill expression to the Hawaii County Medical Society a framed portrait of Dr. Irwin was presented by Mr. Neal Ifversen, general manager of the HMSA, to the Society, the portrait to hang in the Fred Irwin Library of the Hilo Memorial Hospital.

The new internes and residents at The Queen's Hospital are as follows: David K. Gesses, a native of Santa Ana, California, who is a graduate of the University of Maryland Medical School, 1947; Keith F. O. Kuhlman, a native of Hilo, Hawaii, a nephew of DR. V. A. S. OSORIO, formerly of Honolulu, and a graduate of Loyola Medical College, Chicago, 1947; Fred M. K. Lam, son of DR. FRED K. LAM, of Honolulu, who is a graduate of St. Louis University Medical School, 1947; Gail G. L. Li, son of DR. MIN HIN LI, of Honolulu, who is a graduate of Jefferson Medical College, 1947. On the resident staff is Richard S. Horio, a graduate of the University of Utah, 1944, who recently completed a residency at the Kuakini Hospital and is now an assistant resident in medicine. Francis Lau, who has completed his interneship at The Queen's Hospital, is now also an assistant resident in medicine.

At the Kuakini Hospital, Dr. Clyde H. Ishii, a native of Kauai, has been added to the resident staff. Dr. Ishii is a graduate of Jefferson Medical College, Philadelphia, in 1934, following which time he has served in various hospitals in New York City including Manhattan General and Gotham Hospitals, as well as private practice in New York.

Kapiolani Hospital has added two full-time residents to their staff. Dr. Robert D. McKee, a graduate of the University of Texas Medical School, 1939, and a native of Galveston, Texas, served in the Army for five years following his interneship. Three years of his Army service were on Oahu, during which time he had charge of the Obstetric and Gynecologic clinics at various posts. Dr. Charles Shudholt, a native of Missouri, is a graduate of Washington University Medical School, 1943, and completed a year of interneship at St. Luke's Hospital in St. Louis, Missouri, where he also had a nine months' residency. He was stationed at Tripler General Hospital for two years with the Army.

DR. LYLE G. PHILLIPS, of Honolulu, enjoyed a plane trip to the Pacific Northwest in August on the official Chamber of Commerce of Honolulu trip to that region. The trip included thirty-two of the leading business and professional men of Honolulu.

Licenses to practice medicine and surgery in the Territory of Hawaii have been issued to the following: DR. LEO BERNSTEIN, of Hilo, a graduate of Tufts College Medical School, Boston; DR. SHIGEKI HAYASHI, of Kealakekua, Hawaii, a graduate of Western Reserve University Medical School, Cleveland; DR. CHARLES S. JUDD, JR., temporarily at Kaunakakai, Molokai, a graduate of Yale University Medical School; DR. EDWARD T. MATSUOKA, a native of Olaa, Hawaii, now a resident at St. Francis Hospital, Honolulu, and a graduate of the Medical College of Virginia; DR. FRANCIS Y. K. LAU, a native of Honolulu, who was graduated from the College of Medical Evangelists and is the medical resident at The Queen's Hospital, Honolulu; DR. GRACE HALL HEDGECOCK, a graduate of the Women's Medical College of Philadelphia, who has recently completed a medical residency at The Queen's Hospital; DR. EARNEST J. YOUNG, a graduate of the University of Nebraska Medical School, now associated with the Medical Group, Honolulu; DR. LYLE BACHMAN, a graduate of the Rush Medical School of the University of Chicago, now located with DRS. BATTEN AND BELL, Honolulu.

DR. ARTHUR W. DURYEA, of Honolulu, has changed locations from Hawaii for health reasons and is now practicing in Soledad, California.

DR. ALFRED S. HARTWELL, of The Clinic, has returned after a prolonged stay on the mainland during which he successfully completed the examinations for certification by the American Board of Internal Medicine, and was also certified in the sub-specialty of Cardiology by separate examination.

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Maui

DR. A. H. Y. WONG has been appointed head physician of the Malulani Hospital, Wailuku. Dr.

Wong recently completed six months as resident at the St. Francis Hospital, Honolulu. He is a graduate of Tulane University Medical School and served in the Army for two years.

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Molokai

DR. RAYMOND T. EKLUND, of Kaunakakai, is spending a prolonged vacation on the mainland, his first in twelve years. During this time his practice is being handled by DR. CHARLES S. JUDD, JR., who recently completed his interneship at The Queen's Hospital.

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HONOLULU OBSTETRICAL AND GYNECOLOGICAL SOCIETY

This society was recently newly formed and is in the process of becoming organized. Their first meeting was held on August 18 at the Mabel Smyth Building at which time two papers were presented. DR. FRANK C. SPENCER gave a paper on "Prolonged Labor," which was followed by a case report by DR. ALVIN V. MAJOSKA on "Uterotubal Implantation with Successful Pregnancy."

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HONOLULU SURGICAL SOCIETY

A regular meeting of this society was held on August 29 at the Mabel Smyth Building at which time a symposium of neurosurgical conditions was presented by DRS. R. B. CLOWARD and T. S. BENNETT.

The next meeting of this society will be held on Friday, October 17, it being the policy to hold meetings every two months on the third Friday.

* * *

HOSPITAL NEWS

Formal benediction of new wing to the St. Francis Hospital, Honolulu, was given by the Most Reverend James J. Sweeney at impressive ceremonies on Sunday, August 17. This represented the culmination of a long-planned building program by the Sisters of St. Francis, materially aided by the Federal Government through its financial assistance. The new wing provides for adequate administrative space and a large out-patient clinic, as well as for greatly increasing the bed capacity of the hospital both by means of the new rooms on floors in the new wing as well as the added space available from the moving of the administrative offices out of the older portion. The Sisters of St. Francis are to be congratulated for this great step forward which they have made by their diligent, efficient work.

MEDICAL AND SURGICAL FILMS

The Academy-International of Medicine, 214 West Sixth Street, Topeka, Kansas, has informed the JOURNAL that it has available copies of a catalogue compiled by it, listing many motion pictures on various medical and surgical subjects, including the source from which the films may be obtained. The catalogue is free and will be sent to any physician requesting it.

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HOSPITAL LAYOUT SKETCHES

Dr. W. B. Meister, Director of the Division of Hospital Planning, Territorial Health Department, has copies of layout sketches for hospitals of various sizes (50 to 200 beds), community clinics and health centers, and rural hospitals and health centers. Interested persons may obtain these sketches by writing to him at the Health Department or by calling him on the Territorial phone, local 238.

Hospital subdivision sketches include:

Nursery units or floors
Nurseries for the newborn
Obstetric suites
Formula rooms
Delivery suites
Central storage areas
Administration suites
Laboratories
Mortuaries
Radiographic suites
Occupational therapy suites
Pharmacies
E.E.N.T. suites
Operating suites
Cystoscopic suites
Fracture rooms
Central sterilizing and supply suites
Emergency suites
Contagious disease units
Pediatric nursing units
Kitchens and dining rooms
Laundries
Out-patient suites
Record storage areas
Doctor's offices
Dental suites

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THE AMERICAN COLLEGE OF PHYSICIANS
Annual Session at San Francisco
April 19-23, 1948

The American College of Physicians will conduct its 29th Annual Session at San Francisco, April 19-23, 1948. General Headquarters will be at the Civic Auditorium. Dr. William J. Kerr and Dr. Ernest H. Falconer, both of San Francisco, are the Co-Chairmen for local arrangements and the program of Clinics and Panel Discussions. The President of the College, Dr. Hugh J. Morgan, Professor of Medicine at Vanderbilt University School of Medicine, Nashville, Tennessee, is in charge of the program of Morning Lectures and afternoon General Sessions.

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NORTON MEDICAL AWARDS INVITES MANUSCRIPTS

W. W. Norton & Company are again offering the Norton Medical Award for book manuscripts written for the lay public by professional workers in the field of medicine. Terms of the Award have been slightly altered. The publishers now set no final closing date for the submission of manu-

scripts which may be submitted at any time, the Award not being limited to any one year. The Norton Award offers $5000 as a guaranteed advance against royalties. Either complete manuscripts or detailed table of contents together with one hundred pages of manuscript may be submitted. A descriptive folder giving full details of the terms of the Award may be secured on request from the publishers, W. W. Norton & Co., Inc., 101 Fifth Avenue, New York 3, N.Y.

Books that have previously won Norton Medical Awards are THE DOCTOR'S JOB by Carl Binger, M.D., DOCTORS EAST, DOCTORS WEST by Edward H. Hume, M.D., and A SURGEON'S DOMAIN by Bertram M. Bernheim, M.D., published this spring.

* * *

RESEARCH FELLOWSHIPS—THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians announces that a limited number of Fellowships in Medicine will be available from July 1, 1948-June 30, 1949. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in Internal Medicine. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice and that he will be provided with the facilities necessary for the proper pursuit of his work.

The stipend will be from $2,200 to $3,000.

Application forms will be supplied on request to The American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa., and must be submitted in duplicate not later than November 1, 1947. Announcement of the awards will be made as promptly as is possible.

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CALLING ATTENTION TO:
Items of possible interest to friends of Chauncey D. Leake

June, 1947

1. ARMY MEDICAL LIBRARY: Note brief historical survey by R. Hood (*Science* 105:422, Apr. 25, '47). Urgent support needed for essential fire-proof building near Library of Congress. Support also needed to arrange details of cooperation with A.M.A. for full author subject monthly comprehensive index to world medical literature, cumulative annually. Contributions solicited by Consultants: Write Col. Harold Jones, Library of Congress, Washington, D. C.

2. FEDERATION PROCEEDINGS: Program and Abstracts (*Fed. Proc.* 6:1, '47) of Chicago session from synthetic penicillin to neutralization of bacteriophage offer extended picture of patient picking of isolated bits of data. Much on renal and cardiac function, hypertension, enzymes, nucleic acids, autonomic drugs, nerve conduction, antibiotics, chemotherapy, drug toxicity, and vitamins. Univ. of Rochester group reports on pharmacology of uranium. Session on biometrics, biophysics, performance, shock, repair, teaching and research methods. Not much on radioactive tracers. Over 1900 authors!

3. PHYSIOLOGICAL: G. E. Cartwright reviews (665 ref.) dietary factors in erythropoiesis (*Blood* 2:111, 140, 257, '47). E. C. Mason suggests CO_2 loss is a factor in mobilization of body fluids (*Ann. Int. Med.* 26:561, '47). D. Gabor discusses acoustical quanta and the theory of hearing (*Nature* 159:591, May 3, '47). C. L. Schneider shows active principle of placental toxin to be thromboplastin (causing toxemia of pregnancy?), inactivated by heparin (*Amer. J. Physiol.* 149:123, '47). G. Schloss suggests that renal tubules help produce renin (*Helv. Med. Acta* 14:22, '47). S. C. Way further reports on reticulum and lattice fivers (*Arch. Dermat. Syph.* 55:478, '47). A. Lawson and C. Rimington observe antithyroid action of erothioneine, a normal blood constituent (*Lancet* 1:586, May 3, '47). S. W. Wortis, G. Bateson, W. E. Galt, M. Herman, A. C. Kinsey, and W. C. Young discuss physiological and psychological factors in sex behavior (*Ann. N. Y. Acad. Sci.* 57:603, '47). N. Emmelin describes broncho-constricting action of bile acids (*Acta Physiol. Scand.* 13:20, '47). A. Arvanitaki and N. Chalazonitis discuss relation of activity potentials to respiratory catalysts (*Arch. Internat. Physiol.* 54:406, '47). R. M. Kark & Large Co. of Canadian and U. S. Colleagues disprove myth of necessary deterioration of white men in the tropics (*Medicine* 26:1, '47). E. N. Harvey and J. H. McMillen study shock waves in tissues from impact of high velocity missiles (*J. Exp. Med.* 85:321, '47). J. R. Klein and N. S. Olsen find induced convulsions go with decreased brain glycogen, glucose, and adenosine triphosphate, and increased lactate and inorganic phosphorus (*J. Biol. Chem.* 167:747, '47). W. Trager isolates a fat soluble material from plasma having the biological properties of biotin (*Proc. Soc. Exp. Biol. Med.* 64:129, '47).

4. PHARMACOLOGICAL: I. Chavez & Co. describe diagnostic value of direct intracardiac angiocardiography with diodrast (50cc 70% sol. in 1 second) (*Amer. Heart J.* 33:560, '47). D. P. Cuthbertson and Jac Knox confirm G. Alles (*Amer. J. Physiol.* 136:392, '47) and P. K. Knoefel (*Fed. Proc.* 2:83, '47) that benzedrine and methedrine reduce fatigue (*J. Physiol.* 106:42, '47). M. M. Gertler and D. Karp find atabrine helpful in auricular fibrillation (*Proc. Soc. Exp. Biol. Med.* 64:213, '47). W. H. Hall and W. W. Spink note sensitivity of *Brucella* to streptomycin and growth of resistance during treatment (*Ibid* p. 403). J. V. Scudi and W. Antopol note pharmacological features of bacitracin (*Ibid* p. 503).

5. AND SO ON: P. A. Owren describes parahemophilia—a hemorrhagic condition due to absence of unknown clotting factor (*Lancet* 1:446, Apr. 5, '47). F. A. Denz reviews hunger edema (*Quart. J. Med.* 16:1, '47). K. R. Eriksen notes even sensitive bacteria may produce penicillinase (*Acta Path. Microbiol. Scand.* 23:489, '47). J. M. Mackintosh pleasantly suggests applying child guidance principles to old age (*Lancet* 1:659, May 17, '47). J. N. Walton discusses physical factors in continuous intravenous infusions (*Ibid* p. 662). N. R. Pai describes nature and treatment of writer's cramp (*J. Ment. Sci.* 93:68, '47). T. Braatov discusses experimental neurasthenia and intellectual overstrain (*J. Nerv.*

Ment. Dis. 105:477, '47). C. P. Rhoads describes cancer as a systemic disease (*Amer. Rev. Soc. Med.* 4:333, '47 and C. M. Pomerat discusses ACS, p. 340). In pleasant note of farewell, H. E. Sigerist discusses nationalism and internationalism in medicine (*Bull. Hist. Med.* 21:5, '47). A. J. Coale analyses the problem of reducing vulnerability to atomic bombs (Princeton Univ. Press, '47, 190 pp., $2.00). N. R. Stoll describes this wormy world (*J. Parasitol.* 33:1, '47).

July, 1947

1. NEW BOOKS: Richly merited is the testimonial volume to Willstatter's great pupil, Arthur Stoll (Stoll Festschrift, B. Schwabe, Basle, '47, 688 pp. Sw. Fr. 30). Excellent is C. Singer and C. Rabin's *Prelude to Modern Science: Being a discussion of the History, Sources and Circumstances of the Tabulae Anatomicae Sex of Vesalius* (Wellcome Hist. Med. Mus., Cambridge Press, 144 pp., '47, with facsimile [why not all in folio?], 50s). M. Spiegel-Adolf and G. C. Henny offer *X-Ray Diggraction Studies in Biology and Medicine* (Grune and Stratton, New York, '47, 222 pp., $5.50). J. Adriani discusses *Techniques and Procedures of Anesthesia* (C. C. Thomas, Springfield, Illinois, '47, 408 pp., $6.00). F. J. Hodges and Company write stimulating *Radiology* for Medical Students (Yearbook, Chicago, '47, 424 pp., $5.00). W. J. Dann and G. H. Sattfielf edit Vol. XII *Biological Symposia, Estimation of Vitamins* (Ronald Press, New York, '47, 531 pp., $6.50).

2. BLOOD: G. R. Minot succinctly discusses diagnosis and treatment of macrocytic anemias (Trans. Stud. Coll. Phys. Phila. 15:1, '47). C. J. Watson and Co. report purpura following estrogen therapy (*J. Lab. Clin. Med.* 32:607, '47). W. Wilhemij reports average size of erythrocytes increases with emaciation (*Acta Med. Scand.* 128:274, '47). S. P. Lucia and M. L. Hunt describe significance of deviations from average myeloid maturation curve from sternal bone marrow smears (*Am. J. Med. Sci.* 213:686, '47). H. R. Gutmann & Co. note that nicotinamide aids in reduction of methemoglobin by methylene blue and that reduced phosphophyridine nucleotide causes rapid reduction of methb. (*J. Biol. Chem.* 169:145, '47). A. Fischer (Carlsberg Fd., Copenhagen) neatly reviews participation of blood proteins in metabolism of tissue cells (*Biol. Rev. Cambridge Philo. Soc.* 22:178, '47). J. Gonzales Q. and C. A. Angere suggest adrenal cortical hormone essential for O_2 uptake of red cells (*Am. J. Physiol.* 149:502, '47).

3. CANCER: Important survey of chemical carcinogenesis appears (*Brit. Med. Bull.* 4:309, '47) including A. Haddow on mechanism of carcinogenesis, H. G. Crabtree on anticarcinogenesis, E. Boyland on metabolism of carcinogenic compounds, H. Burrows on estrogens and neoplasia, S. A. Henry on occupational cancer, and A. Haddow on chemotherapy of cancer. T. Hanschka and Co. find T. Cruzi inhibits mouse tumors nonspecifically and without promoting survival (*J. Nat. Cancer Inst.* 7:189, '47).

4. PHARMACOLOGICAL: K. W. Donald well describes oxygen poisoning in man, emphasizing CNS involvement (*Brit. Med. J.* 1:712, May 24, '47). E. K. Marshall well reviews principles, methods and results of chemotherapy (*Med.* 26:155, '47). W. H. Fishman proposes that B. glucuronidase is essential to estrogen action (*J. Biol. Chem.* 169:7, '47). S. C. Sulkin and C. Zarafonetis continue studies on inhibiting effects of ether on neurotropic viruses (*J. Exp. Med.* 85:559, '47). P. H. Nexmand and O. Sylvest show that while the dimethyl aminoethyl benzylanilines ("antargan") or benzhydryl ethers ("benadryl") do not prevent histamine urticaria, they do reduce symptoms (*Acta Dermato. Ven.* 27:231, '47). T. T. Puck analyses mechanism of aerial disinfection by glycols (*J. Exp. Med.* 85:729, '47). R. Patiala notes antibiotic action of allyl isosulfocyanates on various dermatophytes (*Ann. Parasitol.* 21:338, '47). T. F. Dougherty and A. White offer evidence that rate of release of gamma globulin from lymphocytes is controlled by pituitary adrenal cortical secretion (*J. Lab. Clin. Med.* 32:584, '47). B. H. Robbins and J. S. Lundy review curare and relatives (*Anesth.* 8:252, '47). N. A. David and A. C. Kirchhof find that hydroxyalkylamide contributes to action of lysergic acid and specifically to uteroactivity (*Schweiz Med. Woch.* 77:13, Jan. 11, '47). D. Bovet and Co. report curare action of quinoyloxy pentane di-iodo ethylate (*Comp. Rend. Acad. Sci.* 223: 597, '46).

5. NOTABLE: For fine objective reporting on sociological and mental hygiene problems, see Rebecca West's *Opera at Greenville* in the June 14 *New Yorker*. H. R. R. Grieve reflects on freedom (*Med. J. Austral.* 1:545, May 3, '47). Pleasant historical turn highlighted inaugural of Thomas Addison (1793-1860) Lectures at Guy's Hospital by E. C. Dodds (*Lancet* 1:699, May 24, '47). K. Lenggenhager offers evidence that physical and mental disturbance from long hyperventilation are due to alkalotic hypocapnia rather than to tissue hypoxia (*Helv. Med. Acta* 14:137, '47). C. A. Mills and Co. further show increased thiamine requirement in tropics (*Amer. J. Physiol.* 149:376, '47). H. Hoagland well discusses enzyme kinetics and dynamics of behavior (*J. Comp. Physiol. Psychol.* 40:107, '47). E. D. Adrian philosophizes wisely in his Hughlings Jackson Lecture (*Brain* 70:1, '47) on principles of nervous activity. A. R. Moritz and F. C. Henriques continue work on thermal injury (*Arch. Path.* 43:466, 489, '47). H. F. Adler and F. S. Grodins analyse abdominal symptoms at altitude (Proj. 493, Rep. 1, AAF Sch. Avia. Med., Randolph Field, Texas, 1947).

INTER-ISLAND NURSES' BULLETIN

Official Publication of the Nurses' Association, Territory of Hawaii

BULLETIN COMMITTEE

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INTERNATIONAL COUNCIL OF NURSES' CONVENTION

The International Council of Nurses held in Atlantic City May 12-16 was attended by five nurses from Hawaii: Mollie K. Kirchgassner, Catherine Barry, Vincenta Fernandez and Michiko Kikugawa of Honolulu, and Kiyoko Yafuso of Hakalau, Hawaii.

Over 5,000 nurses from 32 nations were present as President Effie J. Taylor called to order the first post-war congress of the I.C.N. in Convention Hall, Atlantic City, N. J. Colorful flags of many countries flanked a portrait of Florence Nightingale by Fredrick Roscher, noted New Jersey artist, and the platform was gay with flowers and plants.

Commissioner Sanford Bates, Department of Institutions and Agencies of the State of New Jersey, welcomed the nurses to Atlantic City on behalf of Governor Alfred Driscoll.

Dr. G. Brock Chisholm, executive secretary of The World Health Organization, and Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, emphasized the important role that nurses have to play in world health.

Dr. Chisholm stated, "In your session here, we hope you will make recommendations which will help and guide us in the broad international program we are undertaking. We are still foetal, the United Nations are the obstetricians of this new baby. We have a constitution signed by 63 nations which is internationally broader, and have a responsibility in the field of health greater than that ever given any international organization in the past. We invite and solicit your cooperation.

"It is estimated that 50 per cent of the patients who are ill today are stricken because of emotional disturbances. This was found true in the armed services and is true in civilian life. Perhaps the greatest role of the nurse is as a woman, the protecting person who will help persons who are ill from having to face up to reality too quickly. In this important adjustment the nurse can frequently help in a way that the doctor cannot hope to do. Yours is a profession of science, but to many patients you are valued for your qualities of heart and for your capacity to give peace, comfort and protection. It is important not to forget your function as comforters of suffering humanity."

Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, stressed the importance of uniform training. "In the field of health," Dr. Parran declared, "nations are inter-dependent. The promotion of health in any nation is of value to all nations; just as low health standards and uncontrolled epidemics in any nation constitute a threat to other nations." He added that when every country contributes resources, public health in all countries should be greatly improved.

Dr. Parran pointed out that although international agreements on minimum standards for training health personnel "will not be legally binding," such agreements would give great impetus to the development of more uniform professional training." Dr. Parran stated that there is a great need for such standards because levels of nurse education vary greatly from country to country as well as from school to school in different countries.

"As I see it," Dr. Parran declared, "this is a period of reevaluation for nursing as it is for medicine. It is a rare opportunity to discard worn out ideas and restrictive traditions of the past and to salvage the best for the future."

He urged nurses of the 32 nations attending the Congress to start a course of action which will give new strength and vigor to the nursing pro-

fession every where. He reminded those present that "we can contribute that which we do best at home."

Dr. Edward L. Bortz, president elect of the American Medical Association, told the assembled nurses that this nation's 132,000 A.M.A. members are ready to support recommendations made by the nursing profession which "will improve the position of nurses in hospitals and in homes."

Other speakers included Dr. Louise Pearce, chairman, Committee on International Relations, American Association of University Women; Mrs. Mary Norton, Congresswoman from New Jersey; Dr. Robin C. Buerki, representing the American Hospital Association, and Col. George E. Armstrong, representing Major General Norman T. Kirk, Surgeon General U. S. Army.

Miss Effie Taylor, New Haven, Conn., retiring president of the I.C.N., brought out the true goal of nursing when she stated, "The highest objective of nursing is service, but to be sufficient and effective, it demands the highest type of preparation in the form of general and scientific knowledge, broad culture and experience."

Miss Gerda Hojer of Stockholm, Sweden, president of the Swedish Nurses Association, was elected president of the International Council of Nurses. Other officers include: 1st Vice President, Mary I. Lambie, director, Division of Nursing, New Zealand Health Department, Wellington, New Zealand; 2nd Vice President, Katherine J. Densford, president, American Nurses' Association, and Director, School of Nursing, University of Minnesota, Minneapolis; 3rd Vice President, Grace M. Fairley, formerly director of nurses, Vancouver General Hospital, Vancouver, B. C., Canada; and Treasurer, Miss G. E. Davies, London, England, formerly registrar, General Nursing Council for England and Wales.

The next Congress of the International Council of Nurses will take place in Sweden in 1949 and will mark the fiftieth anniversary of the founding of the I.C.N.

THE PROPOSED STRUCTURES OF ORGANIZED NURSING

VIRGINIA A. JONES, R.N., B.S., M.A.*

Six national nursing organizations have developed in an attempt to meet the needs of organized nursing. The National Organization for Public Health Nursing was organized because its objective—to develop adequate community nursing service—demands the participation of non-nurse leaders and specialists from other professions. The National Association for Colored Nurses was formed to give negro nurses the advantages of an organized approach to their problems which was not available to them because they were not eligible for membership in some of the constituent state organizations of the American Nurses' Association and therefore not able to become members of the A.N.A. The American Association of Industrial Nurses was started by one specialist group to afford more consideration of its particular field than is possible in the present structure of A.N.A. The National League of Nursing Education and the Association of Collegiate Schools of Nursing were considered necessary both because they serve specialty groups which desire non-nurse participation and because they desired a more direct approach to their individual members than is possible through state organizations. Soon a new group, concerned with a particular aspect of nursing care, the practical nurses and other nursing auxiliary workers will come into the picture.

To any one who has participated in the activities of these organizations it becomes obvious that there are of necessity overlapping and gaps in objectives, programs, memberships and achievements. Since this pattern has not met the needs satisfactorily, the question, which the nursing profession is now trying to find an answer to, is: What type of structure can best enable organized nursing to meet its objectives for the expanding future as well as for the present?

Three basic purposes of nursing have been defined by the National Nursing Council and are generally accepted by all nurses. They are:

1. To develop and enforce optimum standards in the recruitment, preparation and practice of the profession, its specialists and its auxiliaries.
2. To promote and protect the social and economic welfare of qualified nursing practitioners.
3. To make adequate qualified nursing service (professional, specialist and auxiliary), readily and economically available to care for all the individual and general health needs of the American people.

The Raymond Rich Associates have been engaged by the national nursing organizations to suggest a structure which will enable the nursing profession to meet these three major purposes. They have submitted plans for a national nursing association, of which all professional nurses, members of any of the six national nursing organizations, would become members. Eventually admission to membership would be through examinations in basic nursing or through graduation from schools accredited by the Association. Not

* President of Nurses' Association, Territory of Hawaii.

only would this enable nurses to make a unified approach to their problems, but, if accepted by the states, it would eventually result in national registration and licensure as well as national accreditation of schools. Each member would join a specialty group of her choice and become a voting member of that section. She would have the privilege of participating in the activities of the other specialty sections. Thus each specialty would have a sufficient degree of autonomy within the common national association.

The membership, through its House of Delegates, would provide for a group of recognized authorities representing each of the specialty sections. This group (called the National Academy of Nurses in the Rich report) would approve examinations for membership in the national association and pass on standards for accreditation of schools, specialist programs and training programs for auxiliary workers. It would encourage research in nursing, supervise technical periodicals, and sponsor a Conference of State Boards of Nurse Examiners and a Conference of Accredited Schools of Nursing. Each of these conferences would act as a clearing house for problems in its field.

To deal with the common problems of all nurses, whatever their specialty interests, the membership, through its House of Delegates, would establish commissions to study and make recommendations to the House of Delegates in each of the general problem areas of nursing such as, social and economic welfare of nurses, educational facilities, nursing and health, legislation, etc.

The administrative machinery to correlate and direct the work of these three groups and their committees would be a Board of Directors elected by the House of Delegates. The Board of Directors would be empowered to establish a National Nursing Center where the offices of the staff would be situated.

This whole recommended plan proposes a most radical change in the pattern of national organizations, especially that of the American Nurses' Association. One of the most controversial issues is the question of the place in it of the nursing auxiliaries, including practical nurses and non-nurse or lay groups. If nursing needs are to be met in one association these people must be a part of it. Plan I, recommended by the Rich report, provides for a single organization representing all of these interests, although it suggests that nursing auxiliaries be granted full participation only when the functions and standards of this group have been well defined. Plan II provides two organizations with a joint Board of Trustees and centralized service headquarters—one organization for professional nurses only, the other for non-professional nurse members.

The second controversial question is the provision recommended for local participation in the affairs of the national association, now provided by state, district and county associations. The Rich report suggests that the constituent bodies of the national association be district associations, each one as far as possible consisting of 500 to 2000 members. The district associations may form a state association to deal with their common intrastate problems. The present procedure of initiating membership in the district or county association will be reversed and membership in the national association will signify eligibility for membership in the district.

It is recognized by Rich Associates, who made the study and should be remembered by all nurses studying the report, that the suggested plan or any modification of it must necessarily be adapted in its details to meet varied situations. For instance, Hawaii (and some states), could not meet the membership number requirement for district associations and could not function other than on a territorial basis.

Cost has not been estimated. It is believed by Rich Associates that considerable sums would be realized in the merging of activities to eliminate overlapping expenditures, and in the possibilities of larger foundation grants and contributions and in larger subscription lists for periodicals, as a result of doubled, unified membership.

The Rich report ends: "But there are other more important costs that the new structure in its infancy will demand—patience, care, hard work, as well as willingness to adjust rapidly to new situations and a readiness to approach the problems of readjustment with tolerance and the will to find workable solutions. Is organized nursing willing to pay these other costs?"

THE JANE SERVICE MEMORIAL FUND

The Jane Service Library Fund, a memorial to Miss Jane Service, retired supervisor of Public Health Nurses on the island of Hawaii who died in the tidal wave disaster of April 1, 1946, has been started by the contribution of $50.00 from friends.

A plaque which is being made from Miss Service's training school pin will be placed in the library when completed. The local committee asks that contributions in the form of books on nurs-

ing and medicine be given in memory of Miss Service.

Persons wishing to contribute should contact Miss Roberta Lindberg, c/o Hilo Memorial Hospital, or Miss Jettie Jacobson, 1289 Waianuenue Avenue, Hilo, Hawaii.

AMERICAN RED CROSS NEWS LETTER

Revised Nurse Enrollment Plan Launched

The Central Committee of the American National Red Cross has approved a revised plan for the enrollment of Red Cross nurses designed to provide a medium through which nurses may participate in community volunteer activities through the American Red Cross.

Red Cross chapters will enroll nurses who are willing to be called upon for service in their local communities in time of disaster or to provide instruction in home nursing or for nurses' aides.

Under the new nurse enrollment plan it is the intention of the Red Cross to offer training institutes through which graduate nurses may supplement their professional training and prepare themselves to meet specific community needs.

Nursing organizations, nursing leaders, directors of hospital schools of nursing, and others who are to have a part in the new recruitment plan for Red Cross nurses will be furnished an outline of plans and procedures for enrollment as soon as they have been completed by the Red Cross Nursing Service.

Red Cross Nurses Invited to Apply for Return of Personnel Papers in Enrollment Files

In the process of adapting its nurse enrollment program to peacetime needs, the American Red Cross plans to reduce the materials in the national nurse enrollment and recruitment file.

Included in the national enrollment and recruitment files are a variety of papers that the enrolled nurses may wish to have preserved. These include, in many instances, confidential work references, school of nursing credentials, birth certificates or other evidences of citizenship, and other legal documents.

School of nursing credentials or other confidential work references cannot be released to the individual nurse, but may be turned over to any nurse placement agency or returned to the school of nursing. Other material that the nurses desire will be returned to them. The Red Cross is urging that nurses make prompt request for its return.

Requests for the return of material should be addressed to Ruth B. Freeman, Administrator, Nursing Services, American National Red Cross, Washington 13, D. C.

Historic material concerning the Red Cross Nurse Enrollment Service and the files of individuals prominent in general nursing and Red Cross nursing will be retained in the Red Cross archives.

Foreign Nurse Students on Red Cross Grants

Following the Congress of the International Council of Nurses held in Atlantic City, May 12-16, nine nurses identified with foreign Red Cross societies remained in the United States for study under grants made by the American National Red Cross.

Under the division of International Activities, Insular and Foreign Operations of the American Red Cross, Randi Juell and Esther Grimes of Norway will have one year each of scholarship study. Ludmilla Fantova, of Czechoslovakia, and Sigrid Larsson, of Finland, began their 6-months fellowship study on May 16. Also beginning study-visits immediately after the adjournment of the congress were Mrs. LeRoy d'Amigny, France; Jadwiga Suffczynska, Poland; Marta Mauks, Hungary; Blanca Marti, Colombia, and Hilda Lozier, Chile.

Other study-visitors to American National Red Cross are Ingrid Wyller, Norway, who is a Florence Nightingale Foundation student; Lydia Damasceno and Yara Miranda, Brazil, studying in the United States under the auspices of the Institute of Inter-American Affairs, and Consuelo Callejas, Spain, under auspices of the Spanish Red Cross.

THE TUBERCULOSIS PATIENT IS A PERSON

CHARLOTTE KERR, B.A., M.S., R.N.*

Who has tuberculosis? Anyone may have it—you, or the person who lives next door to you. Whoever it is, we must remember that he is a real individual with all the usual human emotions, aspirations and insecurities. He is a person with a past, a present and a future. He has a family in which he has a special place and special responsibilities. He may have diabetes, heart disease, or any of the other conditions that ordinary people have. He does not want to be tucked away in a bed, either at home or in the hospital, for a matter of months or years, with nothing to do but to look at the ceiling or at the face in the next bed.

* Director of Tuberculosis Nursing Education, Leahi Hospital, Honolulu, Hawaii.

A few people are glad to exchange their so-called "home" for a better life in a chronic disease hospital. Most people, however, have homes they like and in which they wish to live out the rest of their lives in peace. How far is it between the hospital and the home? When a patient enters a tuberculosis hospital, he is farther from home than the distance in miles. He is removed inexorably from active participation in the responsibilities, joys, satisfactions, security and troubles of those who make up his family. He is thrust into a strange atmosphere among unfamiliar faces in white uniforms (perhaps peering at him from behind a mask). He sees other new faces lying placidly on the pillows of the funny high beds, up and down the length of the ward. Food he doesn't like is put before him; incomprehensible and frightening words are spoken by the people in uniform; privacy has vanished out of his life. A new discipline is imposed upon him and his own habits, desires and ideas are not consulted. Home, in its deepest meaning, has receded quickly into the past and the future spreads out before him filled with uncertainty, fear, repression, frustration, loneliness.

The patient with tuberculosis has been shocked by his diagnosis and has seen the whole little world he has built up for himself torn away from under him. He is therefore tense, discouraged, depressed. He cannot settle down quietly and happily to a regime of REST, REST, REST, when his life is full of unsolved problems. Until he can rest, he cannot get well. Unless he can accept his diagnosis and cooperate with the doctors in their plan for treatment, he cannot conquer his disease.

What is the role of the nurse in this tragedy of tuberculosis? Her real job begins long before the patient even dreams that he is ill. She should take an active part in the entire program of tuberculosis control. This program, as stated by Dr. Herman Hilleboe,* embraces four principal phases:

1. Case-finding to discover all tuberculosis in an active stage.
2. Medical care and isolation of all tuberculous patients.
3. Aftercare and rehabilitation.
4. Protection of the tuberculous family against economic distress.

Nurses are involved in all four phases, but especially in the first three. Wherever they are employed, in public health, in industry, in schools, in offices, in hospitals, in clinics, they need to think of the entire problem. Health service to the patient must include a realization that the patient is an individual, that he is a member of a particular family and of a particular community group. There is direct interplay between his illness and all the other factors in his life. If these other factors are not considered, he may refuse treatment or he may sign out of the hospital and go home because of social stigma, fear, family troubles, emotional maladjustments, etc.

Another important factor to be kept in mind is the need for education of patients, families of patients, and the community as a whole. The educational process begins with the public health nurse, for it is she who has the closest and most consistent contact with all these groups. Her first job is the finding of cases, and potential cases, of active tuberculosis. When the diagnosis has been made, she has an important part to play in the interpretation to the patient and to his family of the meaning of the diagnosis and the program for treatment and cure. She must help him plan for hospitalization and see that arrangements are made for him and his family to have adequate financial support until he has been restored again to a wage-earning capacity. She needs to understand what it means to anyone to have tuberculosis strike him, so that she can help in the mental and emotional adjustments that must be made. She must interpret the importance of isolation in a tuberculosis hospital, both for purposes of treatment and also for the protection given the family and the community by having the infectious person removed from daily contact with others. She will train the patient and family in the essentials of home care until a hospital bed is available.

After the patient has been admitted to a hospital, the educational process at home continues. The maintenance of good health, provision for medical supervision, improvement in housing and sanitation, increased understanding of disease and many other health matters continue to be the responsibility of the public health nurse. She will work with other agencies to accomplish the desired end of helping the family readjust to the new situation and of preventing tuberculosis from spreading through the family.

Education of the patient in the hospital begins at the moment of admission. The hospital nurse takes up where the public health nurse left off. She should continue to interpret tuberculosis to the patient, to build up his confidence, to prepare him for treatment, to train him to protect others from his disease. She and the public health nurse together should act as a link between the hospital

* Hilleboe, H.: Rehabilitation and After Care in Tuberculosis, Pub. Health Rep., (Mar. 1) 1946.

and the home. Not all of this should be left to the social worker, for the social worker does not have an opportunity to know the patient as well as does the nurse who is with him so many more hours a day, nor does she understand so well the health implications in the situation. The nurse can help him to face reality and to prepare himself mentally for a new mode of living on a modified scale.

Tuberculosis patients in the hospital need the same quality and quantity of nursing care as is provided for patients in general hospitals. We should create for them an atmosphere of friendliness, hope and trust so that patients will have courage to face their new way of life and will have faith in the future. With patience and sincerity, the hospital nurse can help the patient to accept his physical limitations and guide him on the way to eventual rehabilitation.

Rehabilitation of the patient also begins at the time of admission to the hospital. This work is carried out by especially trained staffs in many hospitals. However, the nurse is always an important factor through the encouragement she gives to the patient, her supervision of his activity to be sure that it stays within prescribed limits, her commendation of work well done. From this he gains a sense of achievement and a plan for his future which put a new sparkle in his eyes. The aim of rehabilitation is to restore the patient to work—as completely as possible and as fast as is safe.

What are we working toward? We are trying to eradicate tuberculosis from our corner of the earth. The concerted efforts of all of us will do this. On our way to our goal, we need to think not only of the tubercle bacillus but also of the person who is acting as his temporary host. Emotional factors have been found to be the greatest cause of patients signing out against advice. Much of the responsibility for their maladjustments must rest on the shoulders of the nursing staff. Too many nurses do not stop to realize that every patient is a person! Each one should be studied as an individual and handled accordingly. This is sometimes difficult, but it is this very challenge that makes the nursing of tuberculosis patients really absorbing—indeed fascinating. We need both a thorough knowledge of tuberculosis and a real understanding of human relationships. Let us not forget our patient—the person who may be our neighbor, our friend, our fellow-worker, a member of our family, the girl on the next street. Who is our patient and how far away is he from home? Let us always think of our patient as a real person.

HOSPITAL NEWS

Kapiolani Maternity and Gynecological Hospital

Miss Gladys Francisco (Montrose General Hospital, Illinois) has been appointed acting director of nurses, following the resignation of Miss Alfhild Christopherson on July 3, 1947. Miss Francisco has been on the staff at Kapiolani Hospital for two years and has had post graduate work in obstetrics at Cook County Hospital, Illinois, and in Milwaukee, Wisconsin.

Nurses joining the staff in July were:

Miss Joyce Rieling (University of Kansas Hospital School of Nursing, Kansas City, Kansas).

Miss Carolee Day (University of Kansas Hospital School of Nursing, Kansas City, Kansas).

Miss Betty Lou McLain (University of Kansas Hospital School of Nursing, Kansas City, Kansas; B.S. University of Kansas).

Miss Dorothy Jean Campbell (University of Kansas Hospital School of Nursing, Kansas City, Kansas; B.S. University of Kansas).

Nurses leaving in July for extensive vacations on the mainland were Misses Jane Morita, Adele Mendonca, Lorna Chung, Margaret Law, and Mrs. Rowena Parson.

* * *

Leahi Hospital

Three students enrolled in the two months' tuberculosis nursing program for graduate nurses beginning July 1, 1947. They were:

Miss Myrna Campbell (Methodist Hospital, California), a former director of Red Cross Home Nursing, Territory of Hawaii.

Miss Myra Lam (Queen's Hospital School of Nursing, Hawaii), former public health nurse on the staff of Kapahulu Health Center, Hawaii.

Miss Willa Shell (College of Nursing and Health, University of Cincinnati, Ohio), former public health nurse on Kauai.

Leahi's graduate nurse staff education program is well under way. Dr. Hastings Walker, Medical Director, opened the first meeting on July 10 with a very interesting report of the Trudeau Society Meeting, with emphasis on the latest research findings in streptomycin therapy for tuberculosis. Dr. Walker attended the conference in San Francisco in June. Movies on tuberculosis, "Physical Diagnosis," "Pneumothorax," and "Lanakila" were shown at the second meeting. The nurses meet

two evenings a month, on hospital time, and visiting speakers have also been invited to participate.

New staff nurses are:

Miss Phyllis J. Latimer (Memorial Hospital School of Nursing, St. Thomas, Canada).

Miss Frances R. Mueller (Northwestern Hospital School of Nursing, Minnesota).

Miss Toshiko Takao (Columbia Hospital, Washington).

The National League of Nursing Education has sent word that the Territory of Hawaii League of Nursing Education will be formally accepted at the National Meeting to be held in Seattle, September 8 through 11.

* * *

Kuakini General Hospital

New appointments:

Misses Margaret Neiley and Frances Young, graduates of Vancouver General Hospital School of Nursing, British Columbia, have joined the nursing staff.

Mrs. A. Olson has been assistant director of nurses since April 15, 1947.

Miss Michiko Kikugawa is assistant supervisor of obstetrics after completing a post graduate course in obstetrics at Cornell Hospital, New York.

Resigned:

Mrs. Lorraine Phelps Conward, supervisor of operating room, was replaced temporarily by Miss Betty Brault.

Mrs. Elizabeth Milikin (Duke School of Nursing, North Carolina) resigned to accept an office nurse position.

Vacationers:

Miss Hatsue Chinen (Kuakini General Hospital), evening supervisor, spent one month on the Big Island.

Miss Nancy Horikawa (Queen's Hospital, Hawaii), night supervisor, visited family and friends on Kauai for one month.

Miss Marie Freeman (Frankford Hospital School of Nursing, Pennsylvania), pediatrics head nurse, took a short leave of absence to visit Kauai.

School news:

Miss Mary Hugo (St. Luke's Hospital, New York), Director of Nurses, visited Hawaii, Maui, Molokai, and Kauai in May to recruit students.

A recent addition to the curriculum is the three weeks' public health nursing affiliation with the local Health Department.

Alumnae news:

On August 2, the Alumnae Association held a semi-formal dance, its first big social affair, at the Mormon Temple Social Hall. The Association was organized in February 1947.

Miss Akiko Yano, president, and Miss Elsie Taketa are presently enrolled at Children's Hospital, Washington, D. C., in a six months' post graduate course in pediatrics.

Staff nurse, Kikue Inamura, was recently married to Isao Kimoto.

Mrs. Kimie Tomoyasu, supervisor of Central Supply, is on maternity leave.

Recent additions (males) to the cradle roll were made by Mrs. Dorothy Saito and Mrs. Utako Yogi.

New additions to the staff recently are:

Mrs. Winifred Marie La Londe (Mercy Hospital, Michigan).

Mrs. Hazel Takahashi (Queen's Hospital, Honolulu).

Mrs. Margetan Bourdan (Providence Hospital, Washington).

Mrs. Anne Verdie Loring (Providence Hospital, Washington).

Miss Mildred Kohatsu (Kuakini General Hospital).

Mrs. Elizabeth Kennedy (St. Mary of Nazareth, Chicago, Illinois), anesthetist.

Miss Florence Kawabe (St. Francis Hospital, Honolulu).

Mrs. Elsie Deakin (Lenox Hill Hospital, New York).

Mrs. Mabel Chor (Queen's Hospital, Honolulu) is relief night supervisor.

Mrs. Lillian Yamaguchi (Kuakini Hospital) is relief supervisor.

Mrs. Dorothy Hiraoka (Kuakini Hospital).

Mrs. Rachel Kokuta (Kuakini Hospital).

Recent departures were:

Miss Betty Brault, acting operating room supervisor.

Mrs. Darel Hatfield (Jeanne Thacker).

Mrs. M. C. Logan, clinical supervisor and health director, for a vacation on the mainland.

Mrs. Amy Dziegel, supervisor.

Miss Grace Gardner, record librarian.

Miss Mary Murai, chief dietitian.

Children's Hospital

Mrs. Ella Hand, superintendent of nurses, left for a three months' vacation on August 1 to visit her home in Des Moines, Iowa. Relieving Mrs. Hand was Mrs. Arlene Thompson (Buffalo City Hospital, now known as Meyer Memorial Hospital, New York). Mrs. Thompson, well known in our local nursing field, was formerly Educational Director at Children's Hospital.

Miss Mamie Murakami (Queen's Hospital School of Nursing, Honolulu, T. H.) left by clipper on August 12 to enroll in a post-graduate pediatric course at Cincinnati Children's Hospital, Ohio. She has been granted a scholarship by the Territorial Board of Health for a year's study. Staff at Children's Hospital honored Miss Murakami at a farewell tea at Waioli Tea Room, prior to her departure.

Children's Hospital has recently received approval for residency training in Pediatrics by the American Medical Association. With negotiations under way, the hospital hopes soon to bid Aloha to its new resident physicians.

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St. Francis Hospital

The following new graduates were added to the staff recently:

Miss Lucille M. Buehner (Sioux Valley Hospital, South Dakota).
Miss Lillian Durant Dole (Waltham General Hospital, Massachusetts).
Miss Eunice J. Fors (Good Samaritan Training School for Nursing, Oregon).
Mrs. Martha K. Irish (St. Francis Hospital School of Nursing, Honolulu).
Miss Lillian Jurenka (Sacred Heart Hospital School of Nursing, Montana).
Miss Phyllis Kohler (St. Joseph's Hospital, Minnesota).
Miss Margaret Kuhrey, Sacred Heart Hospital School of Nursing, Montana).
Miss Florence Stevenson (Seattle General Hospital, Washington).

THE EDUCATIONAL VALUE OF AN OUT-PATIENT DEPARTMENT IN A HOSPITAL OPERATING A SCHOOL OF NURSING

(MRS.) MILDRED M. PINNER, R.N., M.S.*

The country needs 65,000 Public Health Nurses and at present there are 21,000. Clinic Nursing or Out-Patient Department is a specialty of Public Health Nursing. Often times the Out-Patient Department in a hospital furnishes the only opportunity for experience with the social and preventive aspects of nursing. To be good Public Health Nurses, our students need an insight into this specialty. Clinic nursing in a recognized School of Nursing offers this opportunity. When our Schools of Nursing were surveyed as a means of accreditation last fall, we were short of two services, public health nursing, and for several schools, psychiatric. With facilities available in our community should we fall short in our responsibilities to our students?

The Out-Patient Department is a form of community public health. The degree to which students have contact with the home and the other community agencies varies according to the facilities which the Out-Patient Department offers. This department offers educational opportunities for the student, not only to give her an idea of the conditions outside the hospital which affect patients, but also to enlarge her understanding of certain clinical aspects which the inservice program does not provide.

However, the Out-Patient Department is of value in this aspect only if there are well qualified nurses with experience in Public Health Nursing to teach the students the preventive, social and emotional aspects of illness they would not get in the wards. From such an experience our students should learn:

1. To understand symptoms and treatment of conditions not found in the in-patient service (skin clinic).
2. To understand family relationships and social and community situation which affect the patient's condition and his recovery.
3. To learn how to approach an individual and his family in order to help him accept and work out his own problems.
4. To gain some experience in teaching individuals or groups or both (dietary) (hygiene).
5. To learn how to use community resources for assistance in dealing with the problem of the patient and the family.

Fortunate are the Schools of Nursing which can offer to their students an enriched experience in ward and classroom, experience in the Out-Patient Department and also an affiliation in a Public Health Nursing Agency. Experience shows that there are many unused facilities in the community which may contribute constructively to the preparation of nurses who will participate in the health and social welfare programs of the country.

Nursing Education is a Progressive Process

The generally accepted method is to begin the *first stage* of teaching nursing and nursing practice in the routinized hospital situation when the

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patient is in bed under complete professional control and the student under direct supervision. The *second stage* is an advance to the care of the clinic patient who is up and out most of the time and far less easily controlled by the medical hospital personnel. The student is guided and supervised by qualified personnel. The *third stage* of the student's preparation gives her experience in nursing the sick in the homes. Here both the nurse and the patient are out of the hospital and clinic. This is a community aid (Visiting Nursing). In some programs the second and third stages are combined. This creates the problem of providing as constant and direct supervision in field or home as in clinic, or arranging experience late in the nursing school schedule when the student is about to graduate. This defeats our purpose for a well integrated program incorporating the preventive aspects of nursing.

The student spends two academic years learning the social as well as the physical and biological sciences and securing experience in the basic divisions working with the dietitians, laboratory and x-ray technicians, occupational therapist and physio-therapist. In the Out-Patient Department the student must become aware of her responsibilities as a hostess, nurse, doctor's assistant and teacher as well as to add to her observation of types of illness and treatments not seen in hospital wards. The student should think of the patient as a whole and be taught that she is responsible for case finding and case holding regardless of the location of the patient or her daily assignment.

The student at the end of her service should be able to improve her observations in formulating judgment and planning care; in practicing skills and assisting physicians. Students enjoy their Out-Patient Department experience. It aims at the individualization of service on the basis of need. This experience is aimed at producing a nurse aware of her responsibility for the preservation of health, and care of the sick regardless of whether she is serving in a hospital ward, clinic or patient's home. It is intended to give her nursing experience with people outside of the hospital. It allows her to observe what is going on in Public Health programs and it helps her to decide whether she wishes to be a Public Health Nurse or not.

In an Out-Patient Department, theory and practice are brought together. It is a challenge to a student as it offers the process of problem solving. The students' preparation is lacking in certain essential elements needed for modern family and community health work. To most doctors and nurses, prevention of disease, the teaching of hygiene, the upbuilding of family and community health are vague and visionary, are less dramatic and less practical than the rescue of an acutely ill patient. Few nurses until recently realized the real obligation to prepare nurses for other fields besides institutional and private duty.

The supervision of this department interprets the social-economic and public health aspects of illness to her students. Out-Patient Departments of hospitals are destined to offer more educational opportunities of two types—health education and prophylaxis. In hospitals patients are dressed alike; in an Out-Patient Department they are individual. It is a different matter to tell a mother with three children and a home to manage to apply hot wet compresses to a leg every four hours for twenty minutes than it is to carry out the same procedure in a hospital. This is a good learning situation for the student nurse.

Through an Out-Patient Department the hospital spreads its services to the community. It cooperates with other health agencies for the welfare of the patient and his family. The nurse becomes acquainted with the purposes and functioning of other agencies and together with other workers in the clinic helps to coordinate services to patients. It makes one feel a part of a large inclusive program. The nurse gets to learn people, see the patient in the homes, see problems as the patient does, to understand why they solve problems as they do and to develop such appreciation of their ways of thinking and living.

We see the family as a unit and as a functioning part of the community. The nurse sees the patient's problems from his perspective. With the expansion of medical services, to afford more and better medical care for a greater number of people, clinic facilities must be extended. Clinics have proved their value for teaching and research.

In the modernization of our local hospitals, we need modern services and complete services for our students. For an example: We can offer our nurses in the obstetrical division, experience in prenatal clinic, frequent follow-ups, the study of the patient during delivery, the mother and baby after delivery and the post-natal clinic and well baby clinic facilities. This is a complete picture of one aspect of teaching in a School of Nursing.

Hospitals are operated for the care of patients; Schools of Nursing for the education of students. These both serve the community. No patient is cured until he is completely adjusted in society. No nurse is educated until she has had the opportunity to experience all phases of nursing. Out-Patient experiences will help complete the teaching experience of the student so she will be better able to serve the community.

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